

| <b>REPORT DOCUMENTATION PAGE</b>   |              |                              |   |   | <i>Form Approved<br/>OMB No. 0704-0188</i>   |  |
|--|--------------|------------------------------|---|---|--|--|
| <p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p><b>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</b></p> |              |                              |   |   |  |  |
| <b>1. REPORT DATE (DD-MM-YYYY)</b><br>19-03-2010   |              | <b>2. REPORT TYPE</b><br>N/A |   | <b>3. DATES COVERED (From - To)</b><br>-              |  |  |
| <b>4. TITLE AND SUBTITLE</b><br>Environmental Assessment (EA):<br>Proposed Fire Station,<br>Little Mountain Test Annex, Utah   |              |                              |   | <b>5a. CONTRACT NUMBER</b><br>F42650-03-D-0007        |  |  |
|  |              |                              |   | <b>5b. GRANT NUMBER</b>                               |  |  |
|  |              |                              |   | <b>5c. PROGRAM ELEMENT NUMBER</b>                     |  |  |
| <b>6. AUTHOR(S)</b><br>Klein, Randal<br>Winn, Kay  |              |                              |   | <b>5d. PROJECT NUMBER</b>                             |  |  |
|  |              |                              |   | <b>5e. TASK NUMBER</b>                                |  |  |
|  |              |                              |   | <b>5f. WORK UNIT NUMBER</b>                           |  |  |
| <b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b><br>Streamline Consulting, LLC<br>1713 N. Sweetwater Lane<br>Farmington, Utah 84025   |              |                              |   | <b>8. PERFORMING ORGANIZATION<br/>REPORT NUMBER</b>   |  |  |
| <b>9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b><br>Hill Air Force Base<br>7274 Wardleigh Road<br>Hill AFB UT 84056  |              |                              |   | <b>10. SPONSOR/MONITOR'S ACRONYM(S)</b><br>75 CEG/CEV |  |  |
|  |              |                              |   | <b>11. SPONSOR/MONITOR'S REPORT<br/>NUMBER(S)</b>     |  |  |
| <b>12. DISTRIBUTION/AVAILABILITY STATEMENT</b><br>Approved for public release, distribution unlimited  |              |                              |   |   |  |  |
| <b>13. SUPPLEMENTARY NOTES</b><br>The original document contains color images.   |              |                              |   |   |  |  |
| <b>14. ABSTRACT</b><br>Hill Air Force Base (AFB) proposes to provide a three-bay fire station at Little Mountain Test Annex (LMTA) that would provide adequate fire protection for all personnel and material assets located at LMTA. The findings of this EA indicate that the proposed action would not have significant adverse effects on the human environment or any of the environmental resources as described in the EA. Therefore, it is concluded that a Finding of No Significant Impact is justified.   |              |                              |   |   |  |  |
| <b>15. SUBJECT TERMS</b><br>Environmental Assessment<br>Hill Air Force Base, Little Mountain Test Annex  |              |                              |   |   |  |  |
| <b>16. SECURITY CLASSIFICATION OF:</b>   |              |                              | <b>17. LIMITATION OF<br/>ABSTRACT</b><br><br>UU | <b>18. NUMBER<br/>OF<br/>PAGES</b><br><br>61          | <b>19a. NAME OF RESPONSIBLE PERSON</b><br>Randal B. Klein - rbklein@streamlineut.com |  |
| a. REPORT  | b. ABSTRACT  | c. THIS PAGE                 |   |   | <b>19b. TELEPHONE NUMBER (Include area code)</b><br>(801) 451-7872                   |  |
| unclassified   | unclassified | unclassified                 |   |   |  |  |



---

Hill Air Force Base, Utah

---

***Final***

**Environmental Assessment:  
Proposed Fire Station,  
Little Mountain Test Annex, Utah**

March 19, 2010

***Final***  
**Environmental Assessment (EA):  
Proposed Fire Station,  
Little Mountain Test Annex, Utah**

**Contract F42650-03-D-0007, Delivery Order #0033**

**Department of the Air Force  
Air Force Materiel Command  
Hill Air Force Base, Utah 84056**

**March 19, 2010**

**Prepared in accordance with the Department of the Air Force Environmental Impact Analysis Process (EIAP) 32 CFR Part 989, Effective July 6, 1999, which implements the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations.**

## **EXECUTIVE SUMMARY**

### **Purpose and Need**

The purpose of the proposed action is to provide a three-bay fire station at Little Mountain Test Annex (LMTA) that would provide adequate fire protection for all personnel and material assets located at LMTA.

New facilities are needed to replace the existing fire station, which does not comply with operational requirements or Department of Defense (DOD) standards, Air Force instructions (AFIs), unified facilities criteria (UFC), or standards published by the National Fire Protection Association (NFPA). The deficiencies are related to living areas, size of fire station bays and doors, disinfection facilities, and hazardous materials response capability.

### **Scope of Review**

During a scoping meeting and subsequent interactions, the following environmental issues were addressed:

- air quality,
- solid and hazardous wastes (including liquid waste streams),
- biological resources,
- geology and surface soils,
- water quality,
- cultural resources,
- occupational safety and health,
- air installation compatible use zone (AICUZ), and
- socioeconomic resources.

As explained in the body of this document, the issues that were identified for detailed consideration are: air quality, solid and hazardous wastes (including liquid waste streams), biological resources, and water quality.

### **Selection Criteria**

The facility that provides fire protection for LMTA should:

- comply with DOD, AFI, UFC, and NFPA standards;
- have sufficient space to accommodate all fire department needs, including the latest generation of larger fire fighting vehicles;
- be located within five minutes of LMTA facilities requiring protection in accordance with NFPA Standard 1710 and DOD Standard 6055.6;
- be located near existing water, sewer, and storm drains; and
- be protective of facilities, human health, and the environment.

## **Alternatives Considered in Detail**

Alternative A (No Action Alternative) - Under the no action alternative, the fire station would not be constructed, and compliant facilities would not be provided. Existing deficiencies would continue to exist.

Alternative B (Proposed Action - Construct a Fire Station on an Existing Parking Lot) -

The proposed action would include:

- Constructing a three-bay fire station, which would provide adequate fire protection for all personnel and material assets located at LMTA. The fire station would house a drive-through apparatus room, fire fighting equipment, offices, and crew living quarters.
- Providing additional parking stalls to replace the parking stalls being displaced by the new fire station.
- Constructing a security fence.
- Providing connections to existing buried utilities consisting of water, electricity, telephone/data, sanitary sewer, and storm drains.
- Moving an existing emergency generator from Building 4301 to the new fire station.

No demolition would occur. The portion of Building 4301 occupied by the existing fire station would be incorporated into existing laboratory activities.

Alternative C (Construct a Fire Station West of Existing Parking Lot) - Under this alternative, the fire station would be constructed west of the existing parking lot. Since this alternative would not displace any parking stalls and the current number of stalls is sufficient, no additional parking stalls would be required.

## **Decisions That Must Be Made**

Hill AFB must decide whether to:

- not provide a new fire station at LMTA (no action), or
- construct a new fire station at LMTA.
- If the decision is to construct a new fire station at LMTA, then a decision must be made as to where the facilities will be located.

If Hill AFB decides to construct a new fire station at LMTA, the proponent and environmental managers would comply with the best management practices indicated in this environmental assessment. Further, within 90 days of a written decision pursuant to this environmental assessment, the proponent and environmental managers would then decide if additional monitoring plans and measures, if any, should be implemented.

## Results of the Environmental Assessment

Alternatives A, B, and C were considered in detail. The results of the environmental assessment are summarized in the following table.

Summary Comparison of Alternatives

| Issue                           | Alternative A<br>No Action   | Alternative B<br>Proposed Action  | Alternative C<br>Construct a Fire Station West<br>of Existing Parking Lot  |
|---------------------------------|--|---|--|
| Air<br>Quality                  | Existing air emissions from the emergency generator are 0.11 tons per year or less of each criteria pollutant, and one pound of hazardous air pollutants (HAPs). | Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled.<br><br>Air emissions from an emergency generator would produce 0.11 tons per year or less of each criteria pollutant, and one pound of HAPs.  | Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled.<br><br>Air emissions from an emergency generator would produce 0.11 tons per year or less of each criteria pollutant, and one pound of HAPs.   |
| Solid and<br>Hazardous<br>Waste | Solid and liquid wastes are properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater flows to an existing sanitary sewer.         | If contaminated soils or pavements are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would flow to an existing sanitary sewer. | If contaminated soils are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would flow to an existing sanitary sewer. |

|                      |   |   |   |
|----------------------|---|---|---|
| Biological Resources | Human activities would continue in the area, such as operation of existing facilities and maintenance of habitat. Paved areas would remain, and unpaved areas would remain in their current, somewhat degraded condition. | LMTA habitat has been previously degraded by human activities and by fires. The proposed fire station would reduce available forage for birds and mammals, and displace rodents. Without best management practices, construction activities would increase the chance of introducing additional invasive species. Restoration planting (of any areas not occupied by structures or pavements) would include fire resistant plants, native grasses, and native shrubs. Installing a security fence (enclosing approximately one acre) would not be expected to trap or otherwise affect the resident mule deer herd. | LMTA habitat has been previously degraded by human activities and by fires. The proposed fire station would reduce available forage for birds and mammals, and displace rodents. Without best management practices, construction activities would increase the chance of introducing additional invasive species. Restoration planting (of any areas not occupied by structures or pavements) would include fire resistant plants, native grasses, and native shrubs. Installing a security fence (enclosing approximately one acre) would not be expected to trap or otherwise affect the resident mule deer herd. |
| Water Quality        | No effects.   | During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved. Capacity of the septic system would be increased, if necessary.   | During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved. Capacity of the septic system would be increased, if necessary.   |

### Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

## TABLE OF CONTENTS

|            |   |           |
|------------|---|-----------|
| <b>1</b>   | <b>Purpose of and Need for Action.....</b>  | <b>1</b>  |
| 1.1        | Introduction.....   | 1         |
| 1.2        | Purpose of the Action.....  | 2         |
| 1.3        | Need for the Action.....  | 3         |
| 1.4        | Alternative Selection Criteria .....  | 3         |
| 1.5        | Relevant Plans, EISs, EAs, Laws, Regulations, and Other Documents .....                             | 4         |
| 1.6        | Decisions That Must Be Made.....  | 5         |
| 1.7        | Scope of this Environmental Analysis .....  | 5         |
| 1.7.1      | History of the Planning and Scoping Process .....   | 5         |
| 1.7.2      | Issues Studied in Detail.....   | 6         |
| 1.7.3      | Issues Eliminated From Further Study .....  | 7         |
| 1.8        | Applicable Permits, Licenses, and Other Coordination Requirements.....                              | 8         |
| <b>2.0</b> | <b>Alternatives, Including the Proposed Action.....</b>   | <b>10</b> |
| 2.1        | Introduction.....   | 10        |
| 2.2        | Process Used to Develop the Alternatives .....  | 10        |
| 2.3        | Description of Alternatives .....   | 10        |
| 2.3.1      | Alternative A: No Action.....   | 10        |
| 2.3.2      | Alternative B: Proposed Action - Construct a Fire Station on an<br>Existing Parking Lot .....       | 10        |
| 2.3.3      | Alternative C: Construct a Fire Station West of Existing Parking Lot.....                           | 11        |
| 2.3.4      | Alternatives Eliminated From Detailed Study .....   | 12        |
| 2.3.4.1    | Renovating and Expanding .....  | 12        |
| 2.3.4.2    | Other Locations.....  | 12        |
| 2.4        | Summary Comparison of the Alternatives and Predicted Achievement of<br>the Project Objectives ..... | 12        |
| 2.4.1      | Summary Comparison of Project Alternatives .....  | 12        |
| 2.4.2      | Summary Comparison of Predicted Achievement of Project Objectives..                                 | 13        |
| 2.5        | Identification of the Preferred Alternative.....  | 13        |
| <b>3.0</b> | <b>Affected Environment .....</b>   | <b>14</b> |
| 3.1        | Introduction.....   | 14        |
| 3.2        | Description of Relevant Facilities and Operations .....   | 14        |
| 3.3        | Description of Relevant Affected Issues.....  | 14        |
| 3.3.1      | Air Quality .....   | 14        |
| 3.3.2      | Solid and Hazardous Wastes.....   | 17        |
| 3.3.3      | Biological Resources .....  | 18        |
| 3.3.4      | Water Quality.....  | 20        |
| 3.4        | Description of Relevant Pre-Existing Environmental Factors.....                                     | 22        |
| 3.5        | Description of Areas Related to Cumulative Effects.....   | 22        |



|            |   |           |
|------------|---|-----------|
| <b>4.0</b> | <b>Environmental Consequences.....</b>  | <b>23</b> |
| 4.1        | Introduction.....   | 23        |
| 4.2        | Predicted Effects to Relevant Affected Resources of All Alternatives .....                    | 23        |
| 4.2.1      | Predicted Effects to Air Quality.....   | 23        |
| 4.2.1.1    | Alternative A: No Action.....   | 23        |
| 4.2.1.2    | Alternative B (Proposed Action): Construct a Fire Station on<br>an Existing Parking Lot ..... | 23        |
| 4.2.1.3    | Alternative C: Construct a Fire Station West of Existing<br>Parking Lot.....                  | 25        |
| 4.2.2      | Predicted Effects to Solid and Hazardous Waste.....   | 26        |
| 4.2.2.1    | Alternative A: No Action.....   | 26        |
| 4.2.2.2    | Alternative B (Proposed Action): Construct a Fire Station on<br>an Existing Parking Lot ..... | 26        |
| 4.2.2.3    | Alternative C: Construct a Fire Station West of Existing<br>Parking Lot.....                  | 27        |
| 4.2.3      | Predicted Effects to Biological Resources.....  | 28        |
| 4.2.3.1    | Alternative A: No Action.....   | 28        |
| 4.2.3.2    | Alternative B (Proposed Action): Construct a Fire Station on<br>an Existing Parking Lot ..... | 28        |
| 4.2.3.3    | Alternative C: Construct a Fire Station West of Existing<br>Parking Lot.....                  | 29        |
| 4.2.4      | Predicted Effects to Water Quality .....  | 30        |
| 4.2.4.1    | Alternative A: No Action.....   | 30        |
| 4.2.4.2    | Alternative B (Proposed Action): Construct a Fire Station on<br>an Existing Parking Lot ..... | 30        |
| 4.2.4.3    | Alternative C: Construct a Fire Station West of Existing<br>Parking Lot.....                  | 31        |
| 4.3        | Summary Comparison of Predicted Environmental Effects.....                                    | 32        |
| <b>5.0</b> | <b>List of Preparers .....</b>  | <b>34</b> |
| <b>6.0</b> | <b>List of Persons and Agencies Consulted .....</b>   | <b>35</b> |
| <b>7.0</b> | <b>References.....</b>  | <b>36</b> |

## **LIST OF FIGURES**

|   |    |
|---|----|
| Figure 1: Location of Hill AFB and LMTA .....                               | 1  |
| Figure 2: Location of Proposed Fire Station.....                            | 2  |
| Figure 3: Location of Alternative C.....                                    | 11 |
| Figure 4: State of Utah Areas of Non-Attainment for PM-2.5 .....            | 15 |
| Figure 5: State of Utah Recommended Areas of Non-Attainment for Ozone ..... | 16 |
| Figure 6: Known and Potentially Contaminated Areas, LMTA .....              | 21 |

## **LIST OF TABLES**

|   |    |
|---|----|
| Table 1: Summary Comparison of Predicted Achievement of Project Objectives..... | 13 |
| Table 2: Baseline Criteria Pollutants and HAPs (tons/year).....                 | 17 |
| Table 3: Existing Operational Air Emissions .....                               | 17 |
| Table 4: Birds That Occur on LMTA .....   | 19 |
| Table 5: Calculated Heavy Equipment Emissions.....                              | 24 |
| Table 6: Summary Comparison of Predicted Environmental Effects.....             | 33 |

## **LIST OF APPENDICES**

|   |  |
|---|--|
| Appendix A: Cultural Resources Finding of No Adverse Effect |  |
| Appendix B: Responses From American Indian Tribes           |  |

## LIST OF ACRONYMS AND CHEMICAL TERMS

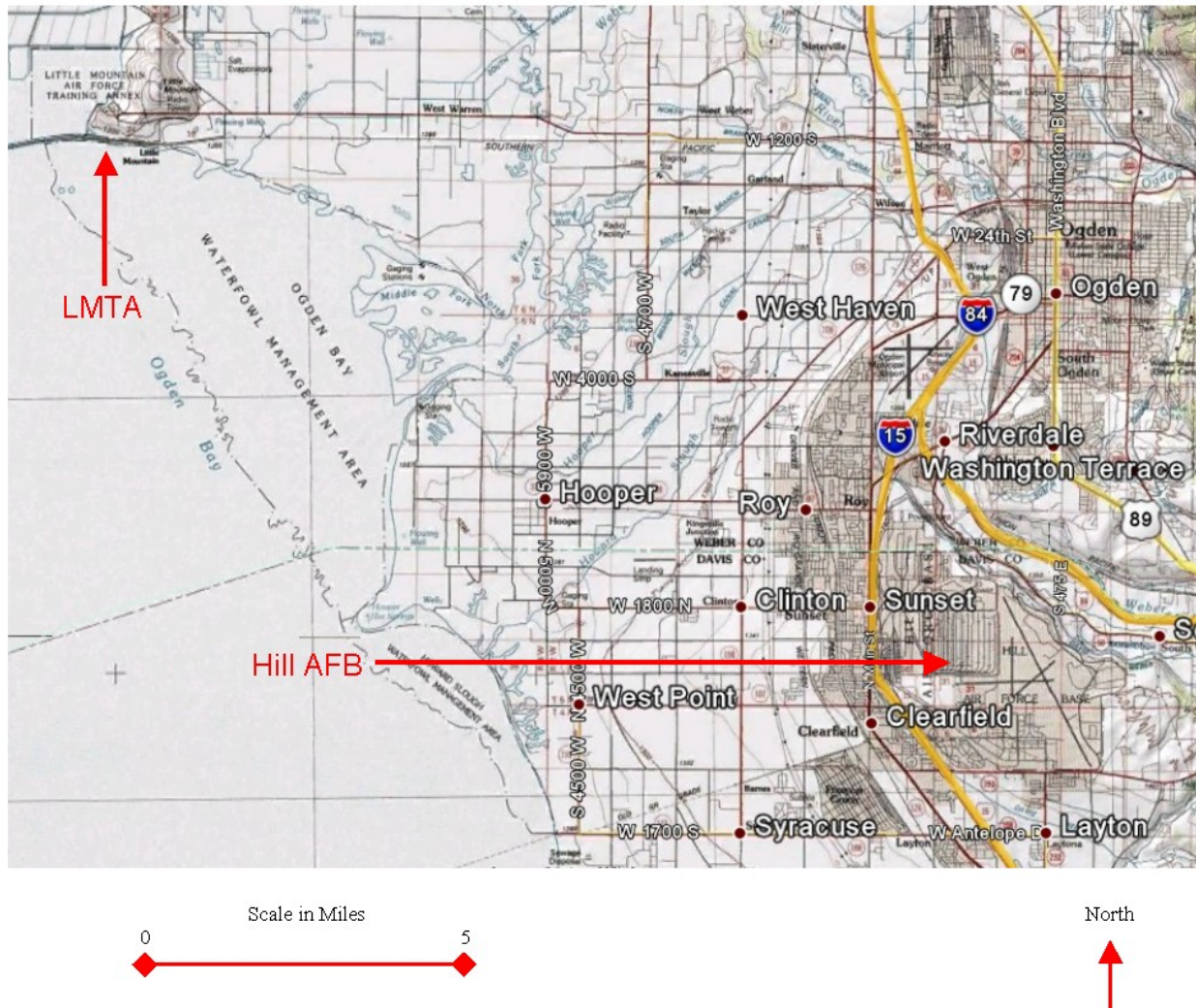
|                 |   |
|-----------------|---|
| AFB             | Air Force Base  |
| AFI             | Air Force Instruction   |
| AFOSH           | Air Force Occupational Safety and Health                            |
| AICUZ           | Air Installation Compatible Use Zone                                |
| CAA             | Clean Air Act   |
| CERCLA          | Comprehensive Environmental Response Compensation and Liability Act |
| CFR             | Code of Federal Regulations   |
| CO              | Carbon Monoxide   |
| CWA             | Clean Water Act   |
| DAQ             | Division of Air Quality (Utah)                                      |
| DOD             | Department of Defense   |
| DRMO            | Defense Reutilization and Marketing Office                          |
| EA              | Environmental Assessment  |
| EIAP            | Environmental Impact Analysis Process                               |
| EIS             | Environmental Impact Statement                                      |
| EISA            | Energy Independence and Security Act                                |
| EPA             | Environmental Protection Agency (United States)                     |
| FONSI           | Finding of No Significant Impact                                    |
| FQI             | Floristic Quality Index   |
| HAP             | Hazardous Air Pollutant   |
| kW              | kilowatt  |
| LMTA            | Little Mountain Test Annex  |
| MBTA            | Migratory Bird Treaty Act   |
| MILCON          | Military Construction   |
| NAAQS           | National Ambient Air Quality Standards                              |
| NEPA            | National Environmental Policy Act                                   |
| NFPA            | National Fire Protection Association                                |
| NHPA            | National Historic Preservation Act                                  |
| NO <sub>x</sub> | Oxides of Nitrogen  |
| O <sub>3</sub>  | Ozone   |
| OSHA            | Occupational Safety and Health Administration                       |

|                 |   |
|-----------------|---|
| PCB             | Polychlorinated Biphenyl                          |
| PM-10           | Particulates Smaller Than 10 Microns in Diameter  |
| PM-2.5          | Particulates Smaller Than 2.5 Microns in Diameter |
| PPE             | Personal Protective Equipment                     |
| RCRA            | Resource Conservation and Recovery Act            |
| RHI             | Range Health Index                                |
| ROD             | Record of Decision                                |
| SHPO            | State Historic Preservation Office                |
| SIP             | State Implementation Plan                         |
| SO <sub>2</sub> | Sulfur Dioxide                                    |
| SOC             | Species of Concern                                |
| SO <sub>x</sub> | Oxides of Sulfur                                  |
| SWPPP           | Stormwater Pollution Prevention Plan              |
| UAC             | Utah Administrative Code                          |
| UFC             | Unified Facilities Criteria                       |
| UGS             | Utah Geological Survey                            |
| USAF            | United States Air Force                           |
| USC             | United States Code                                |
| VOC             | Volatile Organic Compound                         |
| WCI             | Wildlife Community Index                          |

# 1 PURPOSE OF AND NEED FOR ACTION

## 1.1 Introduction

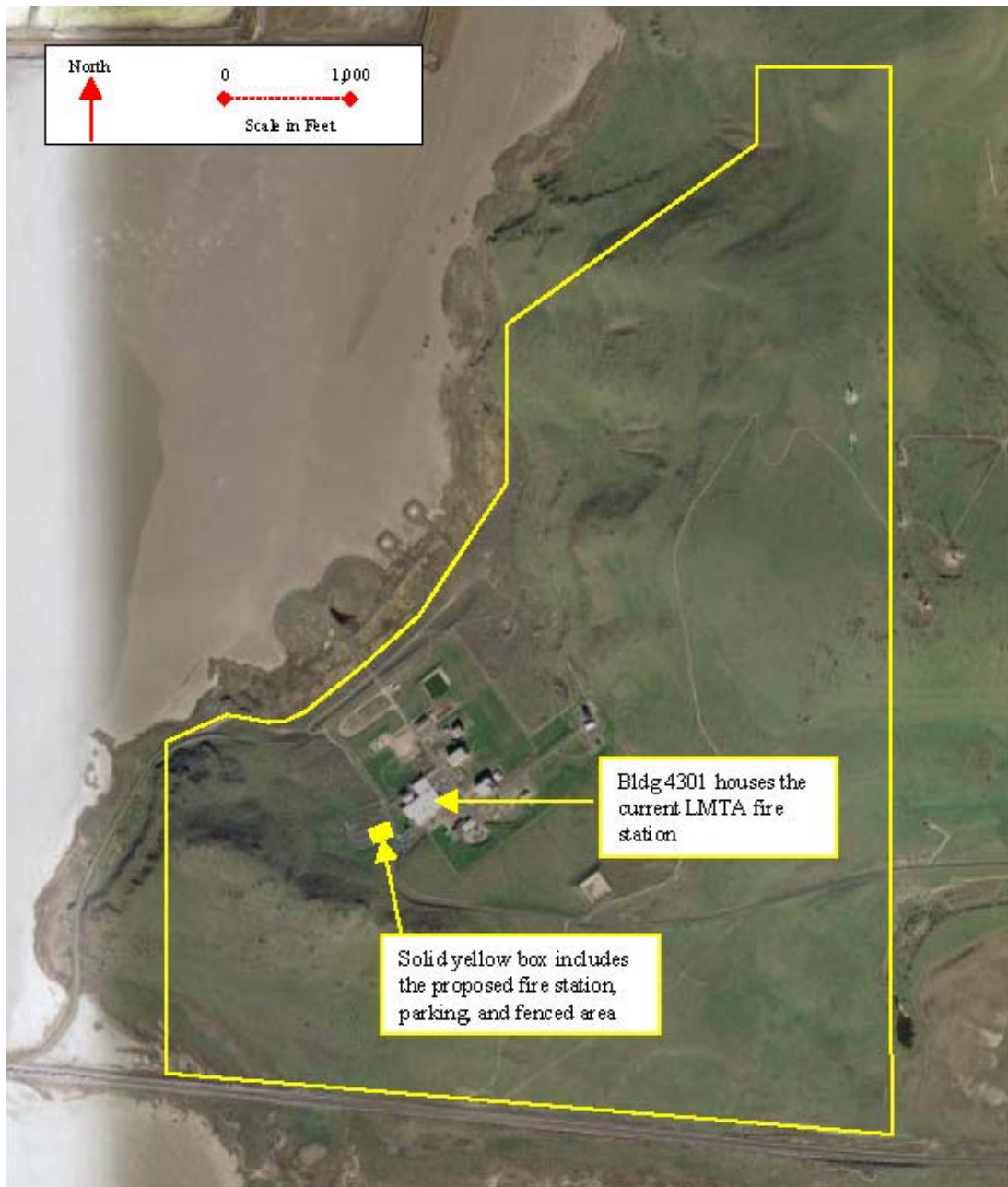
Hill Air Force Base (AFB) is located approximately seven miles south of downtown Ogden, Utah (Figure 1). The base lies primarily in northern Davis County with a small portion located in southern Weber County. Little Mountain Test Annex (LMTA) is a 731 acre facility managed by Hill AFB, located approximately 15 miles west of Ogden, Utah, (Weber County) on the eastern shore of the Great Salt Lake (Figure 1). Research and development activities associated with rocket motor propellants are conducted at LMTA.



**Figure 1: Location of Hill AFB and LMTA**

## 1.2 Purpose of the Action

The purpose of the proposed action is to provide a three-bay fire station at LMTA (see Figure 2) that would provide adequate fire protection for all personnel and material assets located at LMTA. The fire station would house a drive-through apparatus room, fire fighting equipment, offices, and crew living quarters, improving both emergency response capabilities and crew living and working conditions. Parking stalls and a security fence would also be provided.



**Figure 2: Location of Proposed Fire Station**

### 1.3 Need for the Action

The new fire station is needed to replace existing facilities, which do not comply with the following regulatory standards or operational requirements:

| Deficiency   | Regulatory or Operational Concern  |
|--|--|
| The existing fire station can house five fire fighters, as opposed to the need to house nine firefighters. There are currently four sleeping rooms and an office (with one bed in the office).                           | Three violations: DOD Instruction 6055.6, AFI 32-2001, and UFC 4-730-10. |
| The current fire station doors and bays do not safely accommodate the larger and heavier fire fighting vehicles currently in the USAF inventory.   | One violation: UFC 4-730-10.   |
| The infectious disease control and disinfection station is not properly isolated or ventilated to prevent cross contamination from blood borne pathogens.  | One violation: NFPA 1581.  |
| The fire station has a hazardous materials mission; due to lack of indoor storage space, temperature-sensitive response items (rapid air supply and spill containment trailers) are stored at Hill AFB, 35 minutes away. | Operational concern, delayed response time.                              |

Notes: DOD = Department of Defense  
AFI = Air Force Instruction  
UFC = Unified Facilities Criteria  
USAF = United States Air Force  
NFPA = National Fire Protection Association

### 1.4 Alternative Selection Criteria

Due to the considerations presented in the preceding sections, the following selection criteria were established. The facility that provides fire protection for LMTA should:

- comply with DOD, AFI, UFC, and NFPA standards;
- have sufficient space to accommodate all fire department needs, including the latest generation of larger fire fighting vehicles;
- be located within five minutes of LMTA facilities requiring protection in accordance with NFPA Standard 1710 and DOD Standard 6055.6;
- be located near existing water, sewer, and storm drains; and
- be protective of facilities, human health, and the environment.

## 1.5 Relevant Plans, EISs, EAs, Laws, Regulations, and Other Documents

During the scoping process, one relevant plan was identified: a proposal by Hill AFB to construct new security facilities at LMTA. The proposed security facilities were previously addressed in an environmental assessment (EA) by Hill AFB, dated July 9, 2009. No other relevant plans, environmental impact statements (EISs), or EAs were identified.

The following federal, state, and local laws and regulations would apply to the proposed action:

- The National Environmental Policy Act (NEPA), Title 42 of the United States Code (USC) Section 4321 *et seq.*
- Council on Environmental Quality regulations, Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508.
- USAF-specific requirements contained in 32 CFR Part 989, Environmental Impact Analysis Process (EIAP).
- Safety guidelines of the Occupational Safety and Health Administration (OSHA).
- Relevant Air Force Occupational Safety and Health (AFOSH) standards.
- Utah's fugitive emissions and fugitive dust rules (Utah Administrative Code [UAC] Section R307-309).
- Utah's State Implementation Plan (UAC Section R307-110), which complies with the General Conformity Rule of the Clean Air Act (CAA), Section 176 (c).
- Determining Conformity of Federal Actions to State or Federal Implementation Plans, 40 CFR Part 93.154.
- USAF *Conformity Guide*, 1995.
- Utah Asbestos Rules, UAC, Section R307-801.
- The Resource Conservation and Recovery Act (RCRA), 42 USC Chapter 82, and regulations promulgated thereunder, 40 CFR Part 260 *et seq.*
- Federal facility agreement dated April 10, 1991, under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC Section 9601 *et seq.*
- Utah hazardous waste management regulations contained in UAC Section R315, and the Hill AFB *Hazardous Waste Management Plan* dated May, 2001, and subsequent versions.
- The Clean Water Act (CWA), 33 USC Section 1251 *et seq.*, and Utah statutes and regulations promulgated thereunder.
- The Energy Independence and Security Act (EISA) of 2007, Public Law No. 110-140, Sec. 438, Storm Water Runoff Requirements for Federal Development Projects.
- The Hill AFB *Stormwater Management Plan - Municipal Stormwater Permit*, dated April, 2007, and subsequent versions.
- Migratory Bird Treaty Act (MBTA), 16 USC Sections 703-712 *et seq.*
- Bald and Golden Eagle Protection Act, 16 USC Sections 668-668c *et seq.*
- The Hill AFB *Integrated Natural Resources Management Plan*, dated August, 2007, and subsequent versions.
- The Hill AFB *Integrated Cultural Resources Management Plan*, dated January, 2007, and subsequent versions.
- The National Historic Preservation Act (NHPA) of 1966, as amended 16 USC Section 470 *et seq.*



Current versions of the NFPA standards and the USAF *Fire Station Design Guide* would apply to design and construction of the proposed action.

During the scoping process, no other documents were identified as being relevant to the proposed action.

## **1.6 Decisions That Must Be Made**

Hill AFB must decide whether to:

- not provide a new fire station at LMTA (no action), or
- construct a new fire station at LMTA.
- If the decision is to construct a new fire station at LMTA, then a decision must be made as to where the facilities will be located.

Renovating and expanding the existing fire station in Building 4301 was considered by the Hill AFB planners and engineers. This option was not feasible due to spatial constraints of neighboring driveways and structures compared to the turning radius of fire fighting vehicles currently in the USAF inventory.

If Hill AFB decides to construct a new fire station at LMTA, the proponent and environmental managers would comply with the best management practices indicated in this EA. Further, within 90 days of a written decision pursuant to this EA, the proponent and environmental managers would then decide what additional plans and measures, if any, should be implemented.

If Hill AFB decides to construct a new fire station at LMTA, the base would then decide if the selected alternative would or would not be a major federal action significantly affecting the quality of the human environment. If judged as not significantly affecting the quality of the human environment, then a finding of no significant impact (FONSI) would be prepared and signed, and the project would proceed. If judged as significantly affecting the quality of the human environment, then an EIS and a record of decision (ROD) would have to be prepared and signed before the project could proceed.

## **1.7 Scope of this Environmental Analysis**

The scope of the current environmental analysis is to explore environmental issues related to the proposed action (construct a new fire station at LMTA) and the reasonable alternatives identified within this document.

### **1.7.1 History of the Planning and Scoping Process**

Scoping discussions were held: to identify potential environmental concerns; to facilitate an efficient environmental analysis process; to identify issues and alternatives that would be considered in detail while devoting less attention and time to less important issues; and to save time in the overall process by helping to ensure that draft documents would adequately address relevant issues, thereby reducing the time required to proceed to a final document.

On January 14, 2009, an initial scoping meeting was conducted in Building 5, Hill AFB. Attendees included proponents of the proposed action, managers of Hill AFB's NEPA program, other environmental program managers, and the authors of this document.

During this meeting and subsequent scoping interaction, the following environmental issues were addressed:

- air quality;
- solid and hazardous wastes (including liquid waste streams);
- biological resources;
- geology and surface soils;
- water quality;
- cultural resources;
- occupational safety and health;
- air installation compatible use zone (AICUZ); and
- socioeconomic resources.

#### 1.7.2 Issues Studied in Detail

The issues that have been identified for detailed consideration and are therefore presented in Sections 3 and 4 are:

##### **Air Quality** (attainment status, emissions, Utah's state implementation plan [SIP])

Air emissions would be produced by construction equipment. Operating the proposed action would create air emissions. Air quality effects are discussed in Section 4 of this document.

##### **Solid and Hazardous Wastes** (materials to be used, stored, recycled, or disposed, including liquid waste streams; existing asbestos, lead-based paint, mercury, and polychlorinated biphenyls [PCBs])

During construction, solid wastes would be generated, and other hazardous wastes might be generated that would require proper treatment and/or disposal. Additional hazardous wastes could be generated if a spill of fuel, lubricants, or construction-related chemicals were to occur.

Operating the proposed action would be expected to create solid and hazardous wastes (to include solid and liquid wastes). Effects related to solid and hazardous wastes are discussed in Section 4 of this document.

##### **Biological Resources** (flora and fauna including threatened, endangered, and sensitive species; wetlands; floodplains)

Approximately one acre of undeveloped land would be disturbed by the proposed fire station, parking stalls, and a security fence. LMTA supports a resident mule deer herd. Effects related to biological resources are discussed in Section 4 of this document.

**Water Quality** (surface water, groundwater, water quantity, wellhead protection zones)

Based on Hill AFB estimates, the land area to be disturbed by the fire station would be approximately one acre in size. The proposed action would be subject to stormwater permit requirements both during the construction period and during operations.

Contamination of shallow groundwater is not known to exist in the vicinity of the proposed action.

The scoping discussions did not identify any issues related to quantity of water or wellhead protection zones.

Effects related to water quality are discussed in Section 4 of this document.

Liquid waste streams created during construction and from operating the proposed action are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

**1.7.3 Issues Eliminated From Further Study**

The issues that were not carried forward for detailed consideration in Sections 3 and 4 are:

**Geology and Surface Soils** (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination)

The scoping discussions did not identify any issues related to seismicity, topography, minerals, or geothermal resources.

Excavations would be necessary to install: footings; foundations; and buried utilities consisting of water, electricity, telephone/data, sanitary sewer, and storm drains. Discussions related to preventing soil erosion (stormwater pollution prevention) are addressed under water quality effects (Section 4 of this document).

Contamination of shallow soil is not known to exist in the vicinity of the proposed action. Potential discovery of suspicious soils during excavation is addressed under solid and hazardous wastes (Section 4 of this document).

**Cultural Resources** (archaeological, architectural, traditional cultural properties)

Four previous inventories, conducted during 1991, 1994, 2000, and 2001, have comprised cultural resources surveys of 848 acres at LMTA (the 731 acres owned by Hill AFB and additional acres occupied by easement). No cultural resources were identified. The current project alternatives fall within these previously inventoried areas. Given the lack of previous findings and the extensive development and disturbance of LMTA, the potential for historic properties is extremely low. However, if any are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB Cultural Resources Program will be notified, and unanticipated discovery of archaeological deposits procedures will be implemented with direction from the Hill AFB Cultural Resources Program in accordance with Standard

Operating Procedure 5 in the Hill AFB *Integrated Cultural Resources Management Plan* (Hill 2007a). The Utah State Historic Preservation Office (SHPO) concurred with a finding of no adverse effect after reviewing the proposed action (Appendix A). Hill AFB initiated a formal consultation process with 17 American Indian Tribes regarding the proposed action. One response, with no objections noted, was received (Appendix B).

**Occupational Safety and Health** (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft)

Throughout the construction phase of the project, Hill AFB contractors would follow OSHA safety guidelines as presented in the CFR. Hazardous materials that could be used during construction are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

Related to Hill AFB military personnel and civilian employees, the Bio-environmental Engineering Flight (75 AMDS/SGPB) is responsible for implementing AFOSH standards. The AFOSH program addresses (partial list): hazard abatement, hazard communication, training, personal protective equipment and other controls to ensure that occupational exposures to hazardous agents do not adversely affect health and safety, and acquisition of new systems.

The scoping discussions did not identify any issues related to occupational safety and health that would not be routinely addressed by OSHA rules and/or the Bio-engineering Flight.

**AICUZ** (noise, accident potential, airfield encroachment)

The scoping discussions did not identify any issues related to noise, aircraft accident potential, or airfield encroachment.

**Socioeconomic Resources** (local fiscal effects including employment, population projections, and schools)

Opportunities would exist for local construction workers if the proposed action is constructed. The proposed action would not be expected to create additional permanent jobs at Hill AFB or LMTA. The scoping discussions did not identify any issues related to population projections or schools.

## **1.8 Applicable Permits, Licenses, and Other Coordination Requirements**

Obtaining, modifying, and/or complying with the following permits would be required to implement the proposed action.

- The Hill AFB Title V Operating Permit (Permit Number: 1100007001, and subsequent versions). See Section 4.2.1 for additional details.
- Storm Water General Permit for Construction Activities permit number UTR300000, dated July 1, 2008, and subsequent versions. See Section 4.2.4 for additional details.
- The Hill AFB *Stormwater Management Plan - Municipal Stormwater Permit*, dated April, 2007, and subsequent versions. See Section 4.2.4 for additional details.

The proponents would coordinate with the Hill AFB hazardous materials program manager (75 CEG/CEVC) to discuss hazardous materials brought on base to construct the proposed action. See Section 4.2.2 for additional details.

## **2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION**

### **2.1 Introduction**

This section discusses the process used to develop the alternatives, describes the alternatives, and compares (in a brief summary fashion) the alternatives and their expected effects. Finally, this section states the Air Force's preferred alternative.

### **2.2 Process Used to Develop the Alternatives**

As discussed in Sections 1.3 and 1.4 of this document, Hill AFB proposes to provide a new fire station at LMTA. The proposed facility described in this document would comply with all relevant standards, including but not limited to those discussed in Sections 1.3 and 1.4 of this document and requirements from the USAF *Fire Station Design Guide*. The new fire station would have sufficient space to accommodate all fire department needs, including the latest generation of larger fire fighting vehicles.

Hill AFB planners and engineers investigated renovating and expanding the existing fire station (see Section 2.3.3.1), and other potential locations for siting the proposed fire station (see Section 2.3.3.2).

### **2.3 Description of Alternatives**

#### **2.3.1 Alternative A: No Action**

Under the no action alternative, the fire station would not be constructed, and compliant facilities would not be provided. Existing deficiencies would continue to exist related to living areas, size of fire station bays and doors, disinfection facilities, and hazardous materials response capability.

#### **2.3.2 Alternative B: Proposed Action - Construct a Fire Station on an Existing Parking Lot**

The proposed action is to construct a new fire station on an existing parking lot at LMTA (Figure 2). The proposed action would consist of:

- Constructing a three-bay fire station, which would provide adequate fire protection for all personnel and material assets located at LMTA. The fire station would house a drive-through apparatus room, fire fighting equipment, offices, and crew living quarters.
- Providing additional parking stalls to replace the parking stalls being displaced by the new fire station.
- Constructing a security fence (separate from and not contiguous to the overall LMTA perimeter fence).
- Providing connections to existing buried utilities consisting of water, electricity, telephone/data, sanitary sewer, and storm drains.
- Moving an existing emergency generator from Building 4301 to the new fire station.

No demolition would occur. The portion of Building 4301 occupied by the existing fire station would be incorporated into existing laboratory activities.

### 2.3.3 Alternative C: Construct a Fire Station West of Existing Parking Lot

Under Alternative C, the fire station would be constructed west of the existing parking lot (Figure 3). Since this alternative would not displace any parking stalls and the current number of stalls is sufficient, no additional parking stalls would be required.



**Figure 3: Location of Alternative C**

## 2.3.4 Alternatives Eliminated From Detailed Study

### 2.3.4.1 Renovating and Expanding

Renovating and expanding the existing fire station in Building 4301 was considered by the Hill AFB planners and engineers. This option was not feasible due to spatial constraints of neighboring driveways and structures compared to the turning radius of fire fighting vehicles currently in the USAF inventory.

### 2.3.4.2 Other Locations

Outsourcing LMTA fire protection services to nearby municipalities was considered. The closest existing municipal fire station is approximately 12 miles to the east of LMTA, along 1900 West Street, Ogden, Utah. Because of the distance municipal fire crews would have to travel to reach LMTA, the selection criterion of a five minute response time would not be met.

## 2.4 Summary Comparison of the Alternatives and Predicted Achievement of the Project Objectives

### 2.4.1 Summary Comparison of Project Alternatives

The no action alternative would be to continue current operations using the existing facilities. Existing deficiencies would continue to exist related to living areas, size of fire station bays and doors, disinfection facilities, and hazardous materials response capability.

Under either Alternative B (proposed action) or Alternative C, a new fire station would be constructed, enabling Hill AFB to comply with all relevant standards, including but not limited to those discussed in Sections 1.3 and 1.4 of this document and requirements from the USAF *Fire Station Design Guide*. The new fire station would have sufficient space to accommodate all fire department needs, including the latest generation of larger fire fighting vehicles.



#### 2.4.2 Summary Comparison of Predicted Achievement of Project Objectives

| Description of the Project Objective   | Alternative A (No Action) | Alternative B (Proposed Action) | Alternative C (Western Location) |
|--|---------------------------|---------------------------------|----------------------------------|
| Comply with DOD, AFI, UFC, and NFPA standards  | No                        | Yes                             | Yes                              |
| Have sufficient space to accommodate all fire department needs, including the latest generation of larger fire fighting vehicles     | No                        | Yes                             | Yes                              |
| Be located within five minutes of LMTA facilities requiring protection in accordance with NFPA Standard 1710 and DOD Standard 6055.6 | Yes                       | Yes                             | Yes                              |
| Be located near existing water, sewer, and storm drains  | Yes                       | Yes                             | Yes                              |
| Be protective of facilities, human health, and the environment   | No                        | Yes                             | Yes                              |

**Table 1: Summary Comparison of Predicted Achievement of Project Objectives**

#### 2.5 Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

## **3.0 AFFECTED ENVIRONMENT**

### **3.1 Introduction**

Section 3 of this document discusses the existing conditions of the potentially affected environment, establishing a resource baseline against which the effects of the various alternatives can be evaluated. It presents relevant facilities and operations, environmental issues, pre-existing environmental factors, and existing cumulative effects due to human activities in the vicinity of the proposed action or the alternative locations.

Issues discussed during scoping meetings, but eliminated from detailed consideration (see Section 1.7.3) include:

- geology and surface soils (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination);
- cultural resources (archaeological, architectural, traditional cultural properties);
- occupational safety and health (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft);
- AICUZ (noise, accident potential, airfield encroachment); and
- socioeconomic resources (local fiscal effects including employment, population projections, and schools).

### **3.2 Description of Relevant Facilities and Operations**

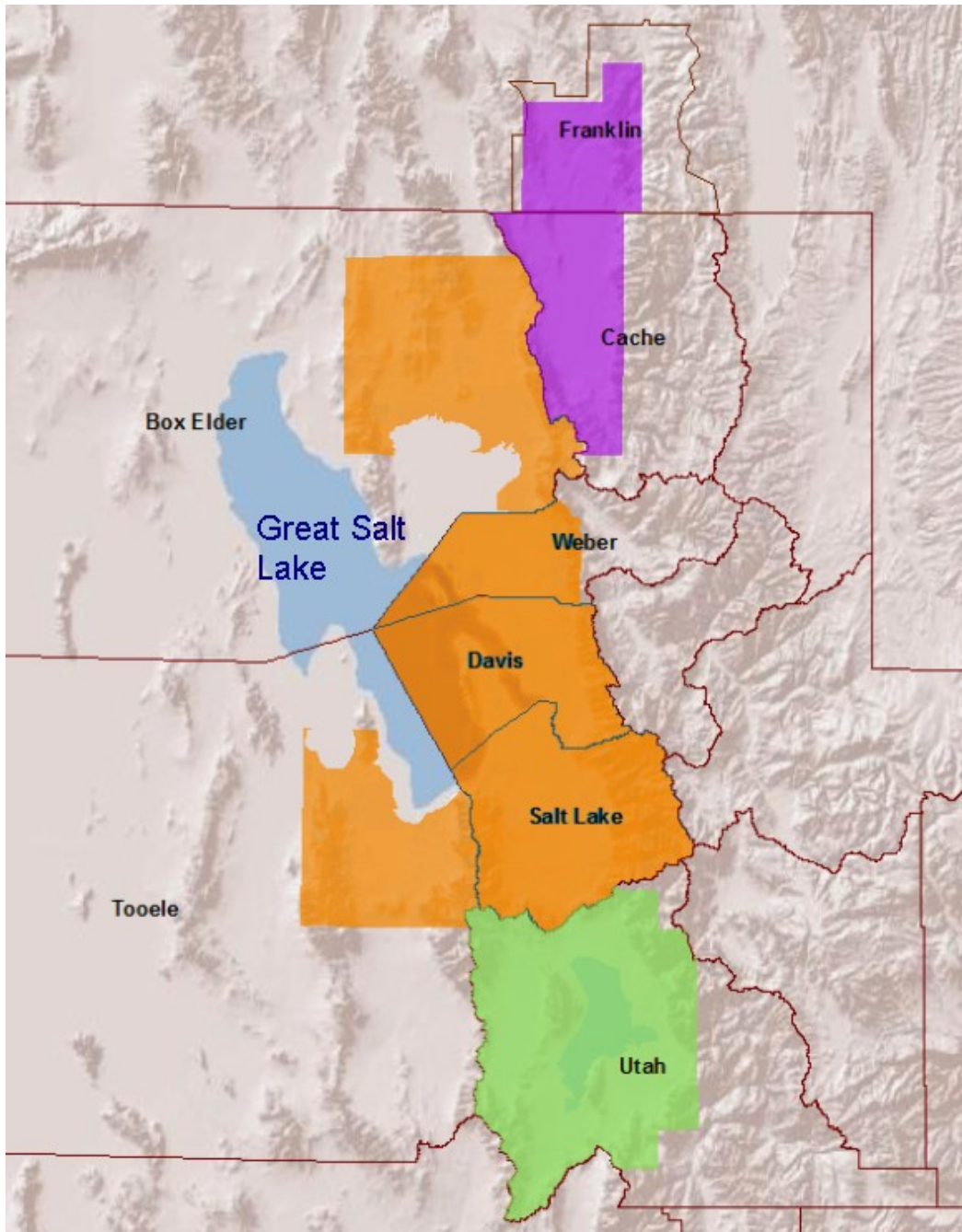
As stated above, the existing fire station does not comply with a variety of relevant standards. No other relevant facilities or operations were identified.

### **3.3 Description of Relevant Affected Issues**

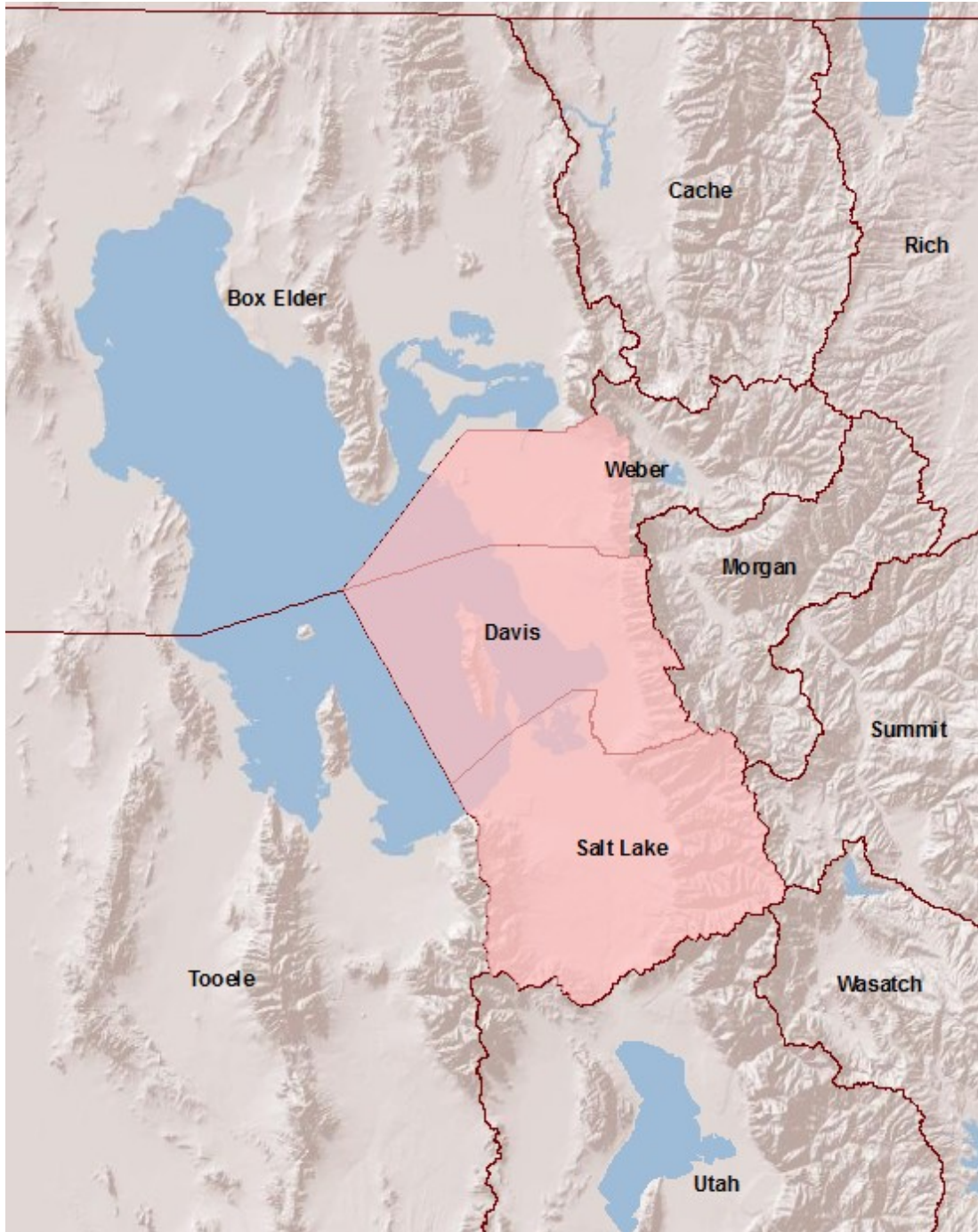
#### **3.3.1 Air Quality**

LMTA is located in Weber County, Utah. Weber County is not in complete attainment status with federal clean air standards (Figures 4 and 5).

Non-attainment areas fail to meet national ambient air quality standards (NAAQS) for one or more of the criteria pollutants: oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), ozone (O<sub>3</sub>), particulates less than 10 microns in diameter (PM-10), particulates less than 2.5 microns in diameter (PM-2.5), carbon monoxide (CO), and lead. Western Weber County (in which the proposed action lies) is designated as a non-attainment area for PM-2.5 and is awaiting a non-attainment designation for ozone. Due to the ozone designation, emission offsets are required for new sources emitting NO<sub>x</sub> and volatile organic compounds (VOCs), which are precursors to ozone formation. Due to the PM-2.5 designation, Utah's Division of Air Quality (DAQ) must submit an implementation plan to the United States Environmental Protection Agency (EPA) for reducing concentrations of the five main types of pollutants contributing to fine particle concentrations in the non-attainment areas (the pollutants are direct PM-2.5 emissions, SO<sub>2</sub>, NO<sub>x</sub>, ammonia, and VOCs).



**Figure 4: State of Utah Areas of Non-Attainment for PM-2.5**



**Figure 5: State of Utah Recommended Areas of Non-Attainment for Ozone**

The current air quality trend at Hill AFB and LMTA is one of controlling emissions as Hill AFB managers implement programs to eliminate ozone-depleting substances, limit use of VOCs, switch to lower vapor pressure solvents and aircraft fuel, convert internal combustion engines from gasoline and diesel to natural gas, and improve the capture of particulates during painting and abrasive blasting operations (in compliance with the base's Title V air quality permit).

Emission estimates are available for criteria air pollutants and hazardous air pollutants (HAPs) for Hill AFB (Hill 2009a), and criteria air pollutants for Davis and Weber Counties (DAQ 2009b). The estimates, shown below in Table 2 were based on data from calendar year 2008 for Hill AFB, and for calendar year 2005 for Davis and Weber Counties.

| Location     | VOC    | CO     | NO <sub>x</sub> | PM-10 | HAP          | SO <sub>x</sub> |
|--------------|--------|--------|-----------------|-------|--------------|-----------------|
| Hill AFB     | 215    | 80     | 133             | 20    | 50           | 1               |
| Davis County | 16,958 | 63,439 | 10,720          | 3,641 | not reported | 3,480           |
| Weber County | 14,796 | 47,956 | 6,868           | 2,882 | not reported | 238             |

**Table 2: Baseline Criteria Pollutants and HAPs (tons/year)**

The existing fire station has an emergency generator rated at 100 kilowatts (kW). Calculated emissions from testing (one hour per month) and running this generator (approximately 48 hours per year supplying backup power) are shown in Table 3.

| Data Assumptions                          |   |      |              |      |         |      |
|---|---|------|--------------|------|---------|------|
|   | Diesel Emission Factor (pounds/1,000 gallons) |      |              |      |         |      |
| Equipment Type                            | VOC   | CO   | NOx          | PM10 | HAPs    | SOx  |
| Emergency Generator (Internal Combustion) | 38  | 102  | 469          | 34   | 2.1     | 7.1  |
|   |   |      |              |      |         |      |
| Annual Fuel Consumption                   |   |      |              |      |         |      |
| Equipment Type                            | Hours   |      | Gallons/Hour |      | Gallons |      |
| Emergency Generator (Internal Combustion) | 60  |      | 8            |      | 480     |      |
|   |   |      |              |      |         |      |
| Operate LMTA Security Facilities          |   |      |              |      |         |      |
|   | Annual Emissions                              |      |              |      |         |      |
| Equipment Type                            | VOC   | CO   | NOx          | PM10 | HAPs    | SOx  |
| Emergency Generator (Internal Combustion) | 18  | 49   | 225          | 16   | 1       | 3    |
| TOTAL ESTIMATED EMISSIONS (pounds/year)   | 18  | 49   | 225          | 16   | 1       | 3    |
| TOTAL ESTIMATED EMISSIONS (tons/year)     | 0.01  | 0.02 | 0.11         | 0.01 | 0.00    | 0.00 |

*Notes:*

Emission factors from AQMD 2009

Operating hours per year estimates from Hill AFB

Fuel consumption rates from manufacturers and other industry estimates

**Table 3: Existing Operational Air Emissions**

### 3.3.2 Solid and Hazardous Wastes

In general, hazardous wastes include substances that, because of their concentration, physical, chemical, or other characteristics, may present substantial danger to public health or welfare or to the environment when released into the environment or otherwise improperly managed.

Potentially hazardous and hazardous wastes generated at Hill AFB and LMTA are managed as specified in the *Hill AFB Hazardous Waste Management Plan* with oversight by personnel from

the Environmental Management Division and the Defense Reutilization and Marketing Office (DRMO). Hazardous wastes at Hill AFB and LMTA are properly stored during characterization, and then manifested and transported off site for treatment and/or disposal. According to RCRA definitions, LMTA is a conditionally exempt small quantity generator.

Wastes created within the existing fire station include: office and kitchen trash, biohazard trash, vehicle maintenance trash, domestic sewage, biohazard liquids, effluent from washing machines that disinfect personal protective equipment (PPE), and vehicle maintenance liquids. Non-regulated items are disposed as uncontaminated trash. Biohazard trash and liquids and vehicle maintenance trash and liquids are transported to facilities on Hill AFB for proper storage and subsequent disposal. The fire station is connected to an existing sanitary sewer, which receives domestic sewage and effluent from the washing machines.

### 3.3.3 Biological Resources

No federal or state endangered or threatened species are known to occur on properties managed by Hill AFB (Hill 2007b) and no likely habitat for any such species would be disturbed by the proposed action. Wildlife species that are federally listed, candidates for federal listing, or for which a conservation agreement is in place automatically qualify for the Utah sensitive species list. The additional species on the Utah sensitive species list, “wildlife species of concern (SOC),” are those species for which there is credible scientific evidence to substantiate a threat to continued population viability. The mule deer (*Odocoileus hemionus*) present on LMTA are a Utah SOC, as mule deer are linked to an at-risk habitat and are on the decline in much of their current range. There are no wetlands or floodplains affected by the alternatives discussed in this document.

The habitat for the proposed action consists of sagebrush/rabbit brush located on both sloping and flat land that frequently occurs within the Great Basin land form and along the foothills of the Wasatch Mountains. The dominant vegetation consists of Cheatgrass (*Bromus tectorum*), Rabbitbrush (*Chrysothamnus nauseosus*), and Storksbill (*Erodium cicutarium*).

LMTA and surrounding non-Air Force lands comprise 1,250 acres of mule deer habitat, currently supporting a herd of approximately 150 mule deer. The Air Force owns 731 acres (LMTA) of this available habitat. This herd is important in many respects. The Little Mountain area is isolated from other mule deer habitat, and it provides all of the necessary life requirements for these mule deer. Air Force property on Little Mountain supplies all of the life cycle requirements for mule deer. Several species of small mammals also occupy LMTA. Approximately 32 species of birds have been observed (see Table 3 below).



| Common Name          | Scientific Name          | Status | Abundance | Reference |
|----------------------|--------------------------|--------|-----------|-----------|
| Mallard              | Anas platyrhynchos       | S      | C         | ‡         |
| California gull      | Larus californicus       | S      | C         | ‡         |
| Killdeer             | Charadrius vociferus     | R      | C         | *‡        |
| Spotted sandpiper    | Actitis macularia        | S      | C         | ‡         |
| Ring-necked pheasant | Phasianus colchicus      | R      | U         | *         |
| Chukar               | Alectoris chukar         | R      | U         | *         |
| Red-tailed hawk      | Buteo jamaicensis        | R      | C         | *         |
| Swainson's hawk      | Buteo swainsoni          | S      | FC        | *         |
| Ferruginous hawk     | Buteo regalis            | S      | U         | *         |
| Bald eagle           | Haliaeetus leucocephalus | W      | FC        | *         |
| Golden eagle         | Aquila chrysaetos        | R      | C         | *         |
| Peregrine falcon     | Falco peregrinus         | T      | R         | *         |
| Prairie falcon       | Falco mexicanus          | R      | FC        | *         |
| Great horned owl     | Bubo virginianus         | R      | C         | *         |
| Mourning dove        | Zenaida macroura         | R      | C         | ‡         |
| Cliff swallow        | Hirundo pyrrhonota       | S      | C         | *         |
| Barn swallow         | Hirundo rustica          | S      | C         | ‡         |
| American crow        | Corvus brachyrhynchos    | T      | U         | *         |
| Common raven         | Corvus corax             | R      | C         | *‡        |
| Black-billed magpie  | Pica pica                | R      | C         | ‡         |
| Rock wren            | Salpinctes obsoletus     | T      | U         | ‡         |
| American robin       | Turdus migratorius       | R      | C         | *         |
| European starling    | Sturnus vulgaris         | R      | C         | ‡         |
| Brewer's blackbird   | Euphagus cyanocephalus   | R      | C         | *         |
| Red-winged blackbird | Agelaius phoeniceus      | S      | C         | *‡        |
| Western meadowlark   | Sturnella neglecta       | R      | C         | *‡        |
| Sage sparrow         | Amphispiza belli         | T      | U         | *         |
| House finch          | Carpodacus mexicanus     | R      | C         | *         |
| American goldfinch   | Carduelis tristis        | T      | U         | *         |
| House sparrow        | Passer domesticus        | R      | C         | *‡        |
| Mountain bluebird    | Sialia currucoides       | S      | U         | *         |
| Northern flicker     | Colaptes auratus         | A      | C         | *         |

**Table 4: Birds That Occur on LMTA**

Notes for Table 3:

Status

A = All year

S = Summer

W = Winter

T = Transitory

Abundance

C = Common - observed anytime

FC = Fairly common - observed most of the time

U = Uncommon - observed infrequently

R = Rare - observed rarely

References for Table 3:

\* Utah State University, 1992, *Natural Resource Management Plan for the Hill Air Force Range, Wendover Air Force Range and Little Mountain Test Facility, Utah*

‡ Stackhouse, Mark, 1997, *Wetlands Linkage to Interstate Commerce at the Utah Test and Training Range and the Little Mountain Testing Facility, Utah*

The natural sagebrush habitats at LMTA have been reduced to a community of grasses, forbs, and invasive species due to numerous fire events. The natural resources program at Hill AFB has created models to measure components that indicate the health of the habitat at specific

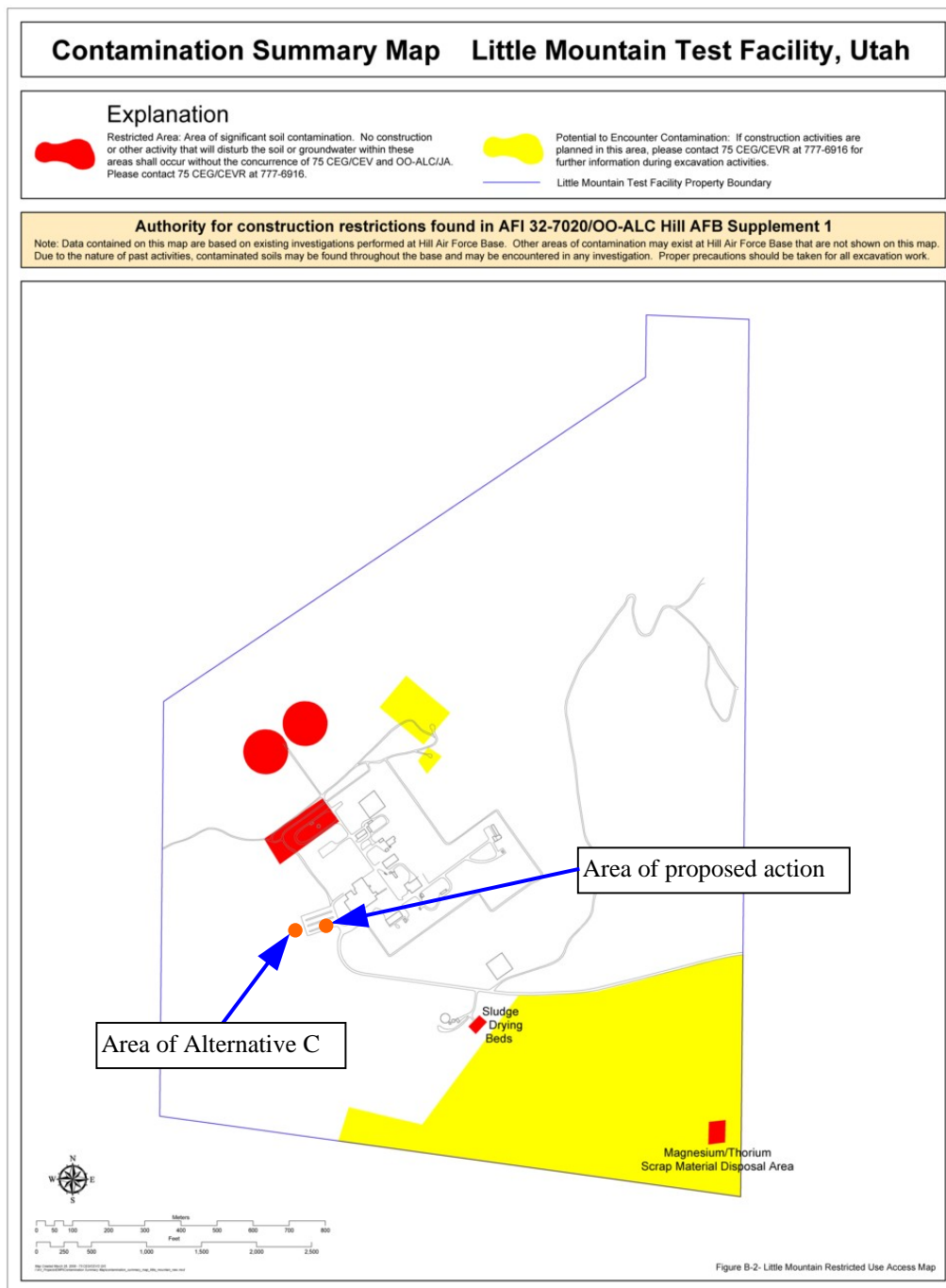
locations. The components that are measured include: the health of a range (range health index, or RHI), the ability of a habitat to support wildlife (wildlife community index, or WCI), and the encroachment of invasive species (floristic quality index, or FQI). Site surveys quantify the health of a range by producing calculated indices ranging from 0.01 to 1.00 with 1.00 being the optimal level at which a habitat can function. For the RHI scale, 0.80 and higher is considered pristine, and below 0.30 is considered highly degraded. The overall RHI for the LMTA is 0.48, the overall WCI is 0.47, and the overall FQI is 0.28. In the immediate vicinity of the proposed action and Alternative C, RHI is 0.45, WCI is 0.48, and FQI is 0.21.

#### 3.3.4 Water Quality

At LMTA, runoff is allowed to infiltrate into the ground through overland flow or surface ditches, discharging to large unoccupied areas. No surface water bodies are present within the area occupied by the existing fire station or the area proposed for constructing the new fire station.

Contaminated shallow groundwater may be present in the southeastern portion of LMTA (see Figure 6).





Note: Areas shaded in yellow have potential for contaminated shallow groundwater

**Figure 6: Known and Potentially Contaminated Areas, LMTA**

### **3.4 Description of Relevant Pre-Existing Environmental Factors**

The Utah Geological Survey (UGS 1994a, UGS 1994b, UGS 2009) has assessed earthquake hazards for Weber County, Utah. The Weber County maps reveal faults along the western edge of the Wasatch Mountains, approximately 15 miles east of LMTA. Ground shaking potential at LMTA is categorized as high risk, in a zone where structures should be designed and constructed with a high degree of earthquake resistance. Liquefaction potential at LMTA is depicted as high. LMTA is outside of known landslide risk zones.

During scoping discussions and subsequent analysis, no other pre-existing environmental factors (e.g., hurricanes, tornados, floods, droughts) were identified for the proposed action.

### **3.5 Description of Areas Related to Cumulative Effects**

For air quality, the area related to cumulative effects would include LMTA, Hill AFB, Davis County, and Weber County.

For solid and hazardous wastes, the area related to cumulative effects would include LMTA.

For biological resources, the area related to cumulative effects would include LMTA and the surrounding non-Air Force lands (1,250 total acres).

For water quality, the area related to cumulative effects would include LMTA.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 Introduction

This section discusses effects to the resources that were identified for detailed analysis in Section 1.7.2, and for which existing conditions were presented in Section 3.3. For each of these resources, the following analyses are presented:

- direct, indirect, and cumulative effects of the no action alternative;
- direct, indirect, and cumulative effects of the proposed action (Alternative B); and
- direct, indirect, and cumulative effects of Alternative C.

### 4.2 Predicted Effects to Relevant Affected Resources of All Alternatives

#### 4.2.1 Predicted Effects to Air Quality

##### 4.2.1.1 Alternative A: No Action

Existing air emissions from the emergency generator would continue. The no action alternative would have no other direct effects, no indirect effects, and no cumulative effects.

##### 4.2.1.2 Alternative B (Proposed Action): Construct a Fire Station on an Existing Parking Lot

#### Direct Effects Due to Construction

**Fugitive Dust:** Fugitive emissions from construction activities would be controlled according to UAC Section R307-205, *Emission Standards: Fugitive Emissions and Fugitive Dust* and the Hill AFB *Fugitive Dust Plan*. Good housekeeping practices would be used to maintain construction opacity at less than 20 percent. Haul roads would be kept wet. Any soil that is deposited on nearby paved roads by construction vehicles would be removed from the roads and either returned to the site or placed in an appropriate on-base disposal facility.

**Heavy Equipment:** The internal combustion engines of heavy equipment would generate emissions of VOCs, CO, NO<sub>x</sub>, PM-10, PM-2.5, HAPs and oxides of sulfur (SO<sub>x</sub>). Assumptions and estimated emissions for the construction period are listed in Table 4.

| Data Assumptions  |                                 |                        |        |        |       |      |       |
|---|---------------------------------|------------------------|--------|--------|-------|------|-------|
| Equipment Type  | Diesel Emission Factor (lbs/hr) |                        |        |        |       |      |       |
|   | VOC (HC)                        | CO                     | NOx    | PM10   | HAPs  | SOx  |       |
| Asphalt Paver   | 0.28                            | 1.24                   | 2.96   | 0.24   | 0.05  | 0.25 |       |
| Bobcat Loader   | 0.14                            | 0.67                   | 1.00   | 0.10   | 0.01  | 0.08 |       |
| Cable Plow  | 0.59                            | 3.75                   | 4.49   | 0.59   | 0.08  | 0.38 |       |
| Compressor (boring)                                     | 0.25                            | 1.62                   | 1.94   | 0.25   | 0.04  | 0.16 |       |
| Concrete Truck  | 0.80                            | 3.55                   | 8.50   | 0.69   | 0.15  | 0.72 |       |
| Crane   | 2.14                            | 6.96                   | 17.08  | 2.39   | 0.33  | 1.54 |       |
| Dump Truck  | 0.63                            | 2.04                   | 6.98   | 0.58   | 0.16  | 0.65 |       |
| Flat Bed Truck  | 0.48                            | 1.54                   | 5.29   | 0.44   | 0.12  | 0.49 |       |
| Fork Lift   | 0.42                            | 2.47                   | 1.98   | 0.40   | 0.05  | 0.23 |       |
| Generator   | 0.02                            | 0.10                   | 0.12   | 0.02   | 0.00  | 0.01 |       |
| Loader/Backhoe  | 0.87                            | 4.12                   | 6.12   | 0.64   | 0.06  | 0.52 |       |
| Motored Grader  | 0.83                            | 2.01                   | 5.08   | 0.53   | 0.06  | 0.46 |       |
| Scraper   | 0.33                            | 2.31                   | 4.03   | 0.58   | 0.13  | 0.42 |       |
| Track Hoe   | 0.91                            | 6.65                   | 13.75  | 1.84   | 0.26  | 1.19 |       |
| Vibratory Compactor                                     | 0.38                            | 1.44                   | 4.31   | 0.36   | 0.09  | 0.46 |       |
| Water Truck   | 1.10                            | 3.58                   | 12.28  | 1.02   | 0.28  | 1.14 |       |
| Wheeled Dozer   | 0.46                            | 1.48                   | 5.08   | 0.35   | 0.08  | 0.49 |       |
| Note: VOCs = Hydrocarbons and HAPs = Aldehydes          |                                 |                        |        |        |       |      |       |
| Source: Industry Horsepower Ratings and EPA 460/3-91-02 |                                 |                        |        |        |       |      |       |
| Construct LMTA Fire Station                             |                                 |                        |        |        |       |      |       |
| EQUIPMENT TYPE  | HOURS OF OPERATION              | Diesel Emissions (lbs) |        |        |       |      |       |
|   |                                 | VOC                    | CO     | NOx    | PM10  | HAPs | SOx   |
| Asphalt Paver   | 60                              | 16.8                   | 74.4   | 177.6  | 14.4  | 3.0  | 15.0  |
| Bobcat Loader   | 30                              | 4.2                    | 20.1   | 30.0   | 3.0   | 0.3  | 2.4   |
| Cable Plow  | 3                               | 1.8                    | 11.3   | 13.5   | 1.8   | 0.2  | 1.1   |
| Compressor (boring)                                     | 2                               | 0.5                    | 3.2    | 3.9    | 0.5   | 0.1  | 0.3   |
| Concrete Truck  | 16                              | 12.8                   | 56.8   | 136.0  | 11.0  | 2.4  | 11.5  |
| Crane   | 26                              | 55.6                   | 181.0  | 444.1  | 62.1  | 8.6  | 40.0  |
| Dump Truck  | 2                               | 1.3                    | 4.1    | 14.0   | 1.2   | 0.3  | 1.3   |
| Flat Bed Truck  | 2                               | 1.0                    | 3.1    | 10.6   | 0.9   | 0.2  | 1.0   |
| Fork Lift   | 3                               | 1.3                    | 7.4    | 5.9    | 1.2   | 0.2  | 0.7   |
| Generator   | 14                              | 0.3                    | 1.4    | 1.7    | 0.3   | 0.0  | 0.1   |
| Loader/Backhoe  | 40                              | 34.8                   | 164.8  | 244.8  | 25.6  | 2.4  | 20.8  |
| Motored Grader  | 48                              | 39.8                   | 96.5   | 243.8  | 25.4  | 2.9  | 22.1  |
| Scraper   | 16                              | 5.3                    | 37.0   | 64.5   | 9.3   | 2.1  | 6.7   |
| Track Hoe   | 70                              | 63.7                   | 465.5  | 962.5  | 128.8 | 18.2 | 83.3  |
| Vibratory Compactor                                     | 3                               | 1.1                    | 4.3    | 12.9   | 1.1   | 0.3  | 1.4   |
| Water Truck   | 2                               | 2.2                    | 7.2    | 24.6   | 2.0   | 0.6  | 2.3   |
| Wheeled Dozer   | 2                               | 0.9                    | 3.0    | 10.2   | 0.7   | 0.2  | 1.0   |
| TOTAL ESTIMATED EMISSIONS (lbs)                         |                                 | 243.4                  | 1140.9 | 2400.5 | 289.3 | 41.9 | 211.1 |
| TOTAL ESTIMATED EMISSIONS (tons)                        |                                 | 0.12                   | 0.57   | 1.20   | 0.14  | 0.02 | 0.11  |

Source of Hours: Robert Anderson, P.E., Hill AFB Engineering

**Table 5: Calculated Heavy Equipment Emissions**

Direct Effects Due to Operations

Based on information received during the scoping meeting held on January 14, 2009 and subsequent discussions with the proponent, the only air emissions due to operating the proposed action would be related to one emergency generator powered by diesel fuel (this generator is currently located and operated at Building 4301). Assumptions and estimated emissions for the operational period would be the same as presented in Section 3.3.1 for the no action alternative (see Table 3).

If required, prior to operating the proposed action, Hill AFB air quality managers would submit notices of intent, seven day notifications, and modification requests to DAQ. Hill AFB would not be allowed to operate the facilities until DAQ concurs that federal and state requirements are being met.

#### Conformity Applicability Determination

Due to local non-attainment status, a conformity applicability determination (compliant with 40 CFR 93.153 and UAC R-307-115) was completed for the proposed action. The proposed action would be required to demonstrate conformity with the CAA unless an applicability determination shows that it is exempt from conformity, in this case, due to having annual emissions below the thresholds established in 40 CFR 93.153(b)(1) and (b)(2). Predicted air emissions due to construction and due to operations were all much less than the established threshold values.

#### Indirect Effects

During scoping and the detailed analysis, no indirect effects related to air quality were identified for the proposed action.

#### Cumulative Effects

**Construction:** Construction-related air emissions would be limited to a duration of several months. Comparing the magnitude of predicted construction-related air emissions (Table 5) to existing emissions for Hill AFB, Davis and Weber Counties (Table 2), there would not be significant cumulative effects to air quality associated with constructing the proposed action.

**Operations:** Hill AFB air quality managers would ensure that long-term operation of the proposed action complies with the Hill AFB Title V Permit, any relevant approval orders, EPA regulations, and the Utah SIP. Any required air quality control devices would be installed and tested prior to allowing newly installed equipment to begin operating. Comparing the magnitude of predicted operational air emissions (Table 3) to existing emissions in Hill AFB, Davis and Weber Counties (Table 2), no significant cumulative effects to air quality were identified for operating the proposed action.

**Combined Effects:** Similar conclusions were reached for a recent proposal by Hill AFB to construct new security facilities at LMTA (documented in Hill 2009b). Viewing the two actions together did not raise concerns regarding cumulative effects to air quality.

#### 4.2.1.3 Alternative C: Construct a Fire Station West of Existing Parking Lot

#### Direct Effects Due to Construction

Direct effects to air quality from constructing Alternative C would be nearly the same as for the proposed action.

### Direct Effects Due to Operations

Direct effects to air quality from operating Alternative C would be the same as for the proposed action.

### Indirect Effects

Similar to the proposed action, no indirect air quality effects were identified for Alternative C.

### Cumulative Effects

Similar to the proposed action, no significant cumulative air quality effects were identified for Alternative C.

## 4.2.2 Predicted Effects to Solid and Hazardous Waste

### 4.2.2.1 Alternative A: No Action

Under the no action alternative, the wastes discussed in Section 3.3.2 would continue to be generated. With respect to solid and hazardous waste, the no action alternative would have no other direct effects, no indirect effects, and no cumulative effects.

### 4.2.2.2 Alternative B (Proposed Action): Construct a Fire Station on an Existing Parking Lot

### Direct Effects Due to Construction

**Waste Generation:** During the proposed construction activities, solid wastes expected to be generated would be construction debris consisting mainly of concrete, metal, and building materials. These items would be treated as uncontaminated trash and recycled when feasible. Any paint on pavements being removed would be tested for lead-based paint content. (see waste management below). It is possible that equipment failure or a spill of fuel, lubricants, or construction-related chemicals could generate solid or hazardous wastes. In the event of a spill of regulated materials, Hill AFB environmental managers and their contractors would comply with all federal, state, and local spill reporting and cleanup requirements.

**Waste Management:** Hill AFB personnel have specified procedures for handling construction-related solid and hazardous wastes in their engineering construction specifications. The procedures are stated in Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection. All solid non-hazardous waste is collected and disposed or recycled on a routine basis. Samples from suspect wastes are analyzed for hazardous vs. non-hazardous determination. The suspect waste is safely stored while analytical results are pending. Hazardous wastes are stored at sites operated in accordance with the requirements of 40 CFR 265. The regulations require the generator to characterize hazardous wastes with analyses or process knowledge. Hazardous wastes are eventually labeled, transported, treated, and disposed in accordance with federal and state regulations.

***Excavated Soils:*** There is no known soil contamination at the location of the proposed action. However, excavations could potentially encounter contaminated soil at or beneath the shallow groundwater interface. If unusual odors or soil discoloration were to be observed during any excavation or trenching necessary to complete the proposed action, the soil would be stored on plastic sheeting and the remedial manager from the Hill AFB Environmental Restoration Branch (75 CEG/CEVR) would be notified (Kyle Gorder, 801-775-2559). Any excess clean soil would either be used as fill for another on-site project or placed in the Hill AFB landfill. Any soil determined to be hazardous would be eventually labeled, transported, treated, and disposed in accordance with federal and state regulations. No soil would be taken off base without prior 75 CEG/CEVR written approval.

#### *Direct Effects Due to Operations*

Based on information received during the scoping meeting held on January 14, 2009, the types of solid and hazardous wastes to be generated due to operating the proposed action would be the same as for existing conditions, to include: office and kitchen trash, biohazard trash, vehicle maintenance trash, domestic sewage, biohazard liquids, effluent from washing machines that disinfect PPE, and vehicle maintenance liquids. Non-regulated items would be disposed as uncontaminated trash. Biohazard trash and liquids and vehicle maintenance trash and liquids would be transported to facilities on Hill AFB for proper storage and subsequent disposal. The new fire station would be connected to an existing sanitary sewer, which would receive domestic sewage and effluent from the washing machines.

#### *Indirect Effects*

During scoping and the detailed analysis, no indirect effects related to solid and hazardous waste were identified for the proposed action.

#### *Cumulative Effects*

Proper handling of solid and hazardous waste eliminates releases of contaminants to the environment or reduces such releases in conformity with legal limits. There would be no significant cumulative solid or hazardous waste effects associated with the proposed action. Similar conclusions were reached for a recent proposal by Hill AFB to construct new security facilities at LMTA (documented in Hill 2009b). Viewing the two actions together did not raise concerns regarding cumulative effects to solid and hazardous waste.

#### 4.2.2.3 Alternative C: Construct a Fire Station West of Existing Parking Lot

#### *Direct Effects Due to Construction*

Direct effects to solid and hazardous waste from constructing Alternative C would be the same as for the proposed action.

#### *Direct Effects Due to Operations*

Direct effects to solid and hazardous waste from operating Alternative C would be the same as for the proposed action.

### Indirect Effects

Similar to the proposed action, no indirect solid and hazardous waste effects were identified for Alternative C.

### Cumulative Effects

Similar to the proposed action, no significant cumulative solid and hazardous waste effects were identified for Alternative C.

## 4.2.3 Predicted Effects to Biological Resources

### 4.2.3.1 Alternative A: No Action

Under the no action alternative, no additional impacts to the project area would occur. Human activities would continue in the area, such as operation of existing facilities and maintenance of habitat. Paved areas would remain, and unpaved areas would remain in their current, somewhat degraded condition. No other direct effects, indirect effects, or cumulative effects were identified for the no action alternative.

### 4.2.3.2 Alternative B (Proposed Action): Construct a Fire Station on an Existing Parking Lot

### Direct Effects Due to Construction

**Construction:** The fire station would be constructed on an existing parking lot, and approximately 8,000 square feet of currently degraded sagebrush habitat would be converted to replacement parking stalls. Grading and covering 8,000 square feet with pavements would reduce available forage for birds and mammals, and displace rodents. This would reduce the site-specific RHI from 0.45 to 0.01. Eliminating grasses and forbs would not be a significant effect due to the small size of the proposed project and the low quality of existing forage (site-specific FQI of 0.21). Recent site observations confirmed the presence of invasive species. Without best management practices, construction activities would increase the chance of introducing additional invasive species.

Installing a security fence (enclosing approximately one acre) would not be expected to trap or otherwise affect the resident mule deer herd.

**Best Management Practices:** Loss of 8,000 square feet of habitat would be managed by providing a functional lift to the habitat. This would be accomplished by restoration planting (of any areas not occupied by structures or pavements) that would include fire resistant plants, native grasses, and native shrubs as outlined in the Hill AFB *Integrated Natural Resources Management Plan* (Hill 2007b).

### Direct Effects Due to Operations

Operating the fire station would discourage nesting and foraging activities by birds. In addition, operations would discourage small mammals from establishing residency at this site.



### Indirect Effects

Indirect effects of displaced mammals would result in increase of mammals occupying nearby habitat on LMTA. Loss of foraging area would result in birds moving to other areas for food. During scoping and the detailed analysis, no other indirect effects related to biological resources were identified for the proposed action.

### Cumulative Effects

Past fires at LMTA have degraded the habitat from a native sagebrush habitat to a grass and forb plant community with invasive species. Combined with the presence of nearby buildings and pavements the biological indices have been degraded to the levels stated in Section 3.3.3. Long-term existence of the fire station would prevent succession of this one acre area to a native state. Due to the small size of the proposed fire station, already degraded biological indices, and the management strategies related to mule deer and fires, no significant cumulative effects to biological resources were identified for the proposed action. Similar conclusions were reached for a recent proposal by Hill AFB to construct new security facilities at LMTA (documented in Hill 2009b). Viewing the two actions together (less than seven acres of combined habitat displacement) did not raise concerns regarding cumulative effects to biological resources.

#### 4.2.3.3 Alternative C: Construct a Fire Station West of Existing Parking Lot

### Direct Effects Due to Construction

**Construction:** The fire station would be constructed on 8,000 square feet of currently degraded sagebrush habitat, and no changes would occur to the existing parking lot. Direct effects from constructing Alternative C would be the same as for the proposed action (each alternative would affect 8,000 square feet of the same habitat type).

**Best Management Practices:** Management for Alternative C would be the same as for the proposed action.

### Direct Effects Due to Operations

Direct effects to biological resources from operating Alternative C would be the same as for the proposed action.

### Indirect Effects

Indirect effects to biological resources from Alternative C would be the same as for the proposed action.

### Cumulative Effects

Similar to the proposed action, no significant cumulative effects to biological resources were identified for Alternative C.

#### 4.2.4 Predicted Effects to Water Quality

##### 4.2.4.1 Alternative A: No Action

With respect to water quality, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

##### 4.2.4.2 Alternative B (Proposed Action): Construct a Fire Station on an Existing Parking Lot

#### Direct Effects Due to Construction

Based on information provided by Hill AFB engineers, the land area to be disturbed by the proposed fire station would be approximately one acre in size. The proposed action would be covered under Utah's general construction permit rule for stormwater compliance. Prior to initiating any construction activities, this permit must be obtained and erosion and sediment controls must be installed according to a stormwater pollution prevention plan (SWPPP). The SWPPP would specify measures to prevent soil from leaving the construction site on the wheels of construction vehicles, thereby controlling the addition of sediments to the storm drain system. The proponents would coordinate with the Hill AFB water quality manager (75CEV/CEGOC) prior to submitting an application for a Utah construction stormwater permit.

Hill AFB construction specifications would require the contractor to restore the land to a non-erosive condition. All areas disturbed by excavation would be backfilled, and then either be covered by pavements, gravel, or re-planted, re-seeded, or sodded to prevent soil erosion.

Since the proposed action would convert a small area occupied by open land to impermeable surfaces, some increased stormwater runoff volume would be expected unless runoff controls were to be created during construction of the facility. EISA Section 438 specifies storm water runoff requirements for federal development projects. The sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 square feet must use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. Compliance with this requirement (by designing and constructing detention and/or retention structures) would eliminate downstream effects due to creating impermeable surfaces.

As mentioned in Section 3.3.4, contaminated groundwater is not believed to exist in the vicinity of the proposed action. Contact with contaminated groundwater would not be expected to occur.

#### Direct Effects Due to Operations

The proposed facility would be subject to Utah's general multi-sector permit rule for stormwater compliance. The *Hill AFB Stormwater Management Plan - Municipal Stormwater Permit* establishes good housekeeping measures and other best management practices to prevent contamination of runoff.

Accommodating four additional firefighters would increase flows to the existing septic system. During design and construction of the proposed facility, the capacity of the septic system would be assessed, and increased if necessary to comply with requirements of the Utah Administrative Code Section R317-4.

#### Indirect Effects

During scoping and the detailed analysis, no indirect effects related to water quality were identified for the proposed action.

#### Cumulative Effects

Water quality would be protected during and after construction activities. There would be no significant cumulative water quality effects associated with the proposed action. Similar conclusions were reached for a recent proposal by Hill AFB to construct new security facilities at LMTA (documented in Hill 2009b). Viewing the two actions together did not raise concerns regarding cumulative effects to water quality.

#### 4.2.4.3 Alternative C: Construct a Fire Station West of Existing Parking Lot

##### Direct Effects Due to Construction

Direct effects to water quality from constructing Alternative C would be the same as for the proposed action.

##### Direct Effects Due to Operations

Direct effects to water quality from operating Alternative C would be the same as for the proposed action.

##### Indirect Effects

Similar to the proposed action, no indirect water quality effects were identified for Alternative C.

##### Cumulative Effects

Similar to the proposed action, no significant cumulative water quality effects were identified for Alternative C.

### 4.3 Summary Comparison of Predicted Environmental Effects

| Issue                           | Alternative A<br>No Action  | Alternative B<br>Proposed Action  | Alternative C<br>Construct a Fire Station West<br>of Existing Parking Lot   |
|---------------------------------|---|---|---|
| Air<br>Quality                  | Existing air emissions from the emergency generator are 0.11 tons per year or less of each criteria pollutant, and one pound of HAPs.   | Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled.<br><br>Air emissions from an emergency generator would produce 0.11 tons per year or less of each criteria pollutant, and one pound of HAPs.  | Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled.<br><br>Air emissions from an emergency generator would produce 0.11 tons per year or less of each criteria pollutant, and one pound of HAPs.  |
| Solid and<br>Hazardous<br>Waste | Solid and liquid wastes are properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater flows to an existing sanitary sewer.  | If contaminated soils or pavements are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would flow to an existing sanitary sewer.   | If contaminated soils are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would flow to an existing sanitary sewer.  |
| Biological<br>Resources         | Human activities would continue in the area, such as operation of existing facilities and maintenance of habitat. Paved areas would remain, and unpaved areas would remain in their current, somewhat degraded condition. | LMTA habitat has been previously degraded by human activities and by fires. The proposed fire station would reduce available forage for birds and mammals, and displace rodents. Without best management practices, construction activities would increase the chance of introducing additional invasive species. Restoration planting (of any areas not occupied by structures or pavements) would include fire resistant plants, native grasses, and native shrubs. Installing a security fence (enclosing approximately one acre) would not be expected to trap or otherwise affect the resident mule deer herd. | LMTA habitat has been previously degraded by human activities and by fires. The proposed fire station would reduce available forage for birds and mammals, and displace rodents. Without best management practices, construction activities would increase the chance of introducing additional invasive species. Restoration planting (of any areas not occupied by structures or pavements) would include fire resistant plants, native grasses, and native shrubs. Installing a security fence (enclosing approximately one acre) would not be expected to trap or otherwise affect the resident mule deer herd. |

|               |             |   |   |
|---------------|-------------|---|---|
| Water Quality | No effects. | During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved. Capacity of the septic system would be increased, if necessary. | During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved. Capacity of the septic system would be increased, if necessary. |
|---------------|-------------|---|---|

**Table 6: Summary Comparison of Predicted Environmental Effects**

## **5.0 LIST OF PREPARERS**

### Streamline Consulting, LLC

1713 N. Sweetwater Lane, Farmington UT 84025

(801) 451-7872

Randal B. Klein, P.E., Project Manager

### Civil Engineer Group, Environmental Division, 75 CEG/CEV

7274 Wardleigh Road, Hill AFB UT 84056

Kay Winn, NEPA Manager, (801) 777-0383

### Select Engineering Services

1544 N. Woodland Park Drive, Suite 310, Layton UT 84041

Rudy Jones, Biologist, (801) 399-1858

### EMAssist, Inc.

7274 Wardleigh Road, Hill AFB UT 84056

Mark Kaschmitter, Air Regulatory Analysis, (801) 775-2359

## **6.0 LIST OF PERSONS AND AGENCIES CONSULTED**

### Civil Engineer Group, Environmental Division, 75 CEG/CEV

7274 Wardleigh Road, Hill AFB UT 84056

Kay Winn, NEPA Manager, (801) 777-0383

Jaynie Hirschi, Archaeologist, (801) 775-6920

Marcus Blood, Natural Resources Manager, (801) 777-4618

Russ Lawrence, Wildlife/Habitat Biologist, (801) 777-6972

Mike Petersen, Water Quality Manager, (801) 775-6904

Kyle Gorder, IRP Project Manager, (801) 775-2559

### Civil Engineer Organizations, 75 CEG and 75 CES

5713 Lahm Lane, Building 593N, Hill AFB UT 84056

Steven Weed, MILCON Project Programmer, 75 CEG/CEP, (801) 777-2580

Robert Anderson, Project Manager, 75 CEG/CEP, (801) 586-8469

Bob Rupert, Power Production Shop, 75 CES/CEOIP, (801) 777-2006

### Vehicle Maintenance Squadron, 75 LRS/ LGTV

Building 1243, Hill AFB UT 84056

Stephen Tasker, (801) 777-9163

## 7.0 REFERENCES

**AQMD 2009:** *Annual Emissions Reporting Tool*, Air Quality Management District, South Coast (California), current on website as of March, 2009.

**CFR:** *Code of Federal Regulations*, US Government Printing Office, Office of the Federal Register (various sections and dates).

**DAQ 2007:** *“Utah’s Area Designation Recommendation for the 2006 PM<sub>2.5</sub> NAAQS”*, Utah Division of Air Quality, December, 2007.

**DAQ 2009a:** *State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance (Updated July 2006)*, Utah Division of Air Quality Website, February, 2009.

**DAQ 2009b:** *Division of Air Quality Annual Report for 2008*, Utah Division of Air Quality, January, 2009.

**EPA 1991:** *Nonroad Engine and Vehicle Emission Study - Report*, Table 2-07a, US Environmental Protection Agency, 1991.

**EPA 1998:** *National Air Pollutant Emission Trends, Procedures Document for 1900-1996*, US Environmental Protection Agency, Page 4-285, 1996.

**Hill AFB:** *Construction Specifications, Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*, Hill AFB, UT, current version.

**Hill 2007a:** *Integrated Cultural Resources Management Plan*, Hill AFB, 2007.

**Hill 2007b:** *Integrated Natural Resources Management Plan*, Hill AFB, 2007.

**Hill 2009a:** *2007 Annual Criteria and Toxic Pollutant Emission Inventory*, Hill AFB, provided by CH2M HILL, February, 2009.

**Hill 2009b:** *Final Environmental Assessment (EA): Proposed Security Facilities, Little Mountain Test Annex, Utah*, July, 2009.

**UGS 1994a:** *Earthquake Ground Shaking in Utah*, Utah Geological Survey, 1994.

**UGS 1994b:** *Liquefaction Potential for a Part of Weber County, Utah*, Utah Geological Survey, 1994.

**UGS 2009:** *Earthquake Fault Map of a Portion of Weber County, Utah*, Utah Geological Survey, current on website as of March, 2009.



## APPENDIX A

### CULTURAL RESOURCES FINDING OF NO ADVERSE EFFECT



## State of Utah

GARY R. HERBERT  
*Governor*

GREG BELL  
*Lieutenant Governor*

## Department of Community and Culture

PALMER DePAULIS  
*Executive Director*

### State History

PHILIP F. NOTARIANNI  
*Division Director*

December 1, 2009

Ms Jaynie Hirschi  
Archaeologist  
75th CEG/CEVOR  
7274 Wardleigh Road  
Hill Air Force Base UT 84056-5137

RE: Little Mountain Test Annex Fire Station, Weber County, Utah

In Reply Please Refer to Case No. 09-1593

Dear Ms. Hirschi:

The Utah State Historic Preservation Office received your request for our comment on the above-referenced project on November 23, 2009.

USHPO recommends a determination of **No Historic Properties Affected**, 36 CFR 800.4(d)(1), rather than a determination of No Adverse Effect.

This letter serves as our comment on the determinations you have made, within the consultation process specified in §36CFR800.4. If you have questions, please contact me at 801-533-3555 or [Lhunsaker@utah.gov](mailto:Lhunsaker@utah.gov) or contact Jim Dykman at 801-533-3523 or [Jdykman@utah.gov](mailto:Jdykman@utah.gov)

Sincerely,

Lori Hunsaker  
Deputy State Historic Preservation Officer - Archaeology

UTAH STATE  
HISTORY

UTAH STATE HISTORICAL SOCIETY  
ANTIQUITIES  
HISTORIC PRESERVATION  
RESEARCH CENTER & COLLECTIONS

300 S. RIO GRANDE STREET, SALT LAKE CITY, UT 84101-1182 · TELEPHONE 801 533-3500 · FACSIMILE 801 533-3503 · HISTORY.UTAH.GOV



DEPARTMENT OF THE AIR FORCE  
75TH CIVIL ENGINEER GROUP (AFMC)  
HILL AIR FORCE BASE UTAH

3 November 2009

Mr. Robert T. Elliott  
Chief, Environmental Management Division  
75 CEG/CEV  
7274 Wardleigh Road  
Hill Air Force Base, Utah 84056-5137

Ms. Lori Hunsaker  
State Historic Preservation Officer  
300 Rio Grande  
Salt Lake City, Utah 84101

Dear Ms. Hunsaker

Hill Air Force Base (AFB) is currently proposing to construct a fire station at the Little Mountain Test Annex (LMTA) in Weber County, Utah. This is required to provide adequate fire protection for all personnel and material assets located at LMTA. Current facilities do not comply with various Department of Defense standards. The Area of Potential Effect (APE) is approximately one acre of property (Attachment 1, Area of Potential Effects for the Proposed Little Mountain Test Annex Fire Station, Options A and B, Hill Air Force Base, Utah).

Within LMTA, four previous inventories have comprised cultural resources survey of 848 acres (U-91-WC-687m, U-94-HL-0022m, U-00-HL-0743m, and U-01-HL-0558m). No historic properties were identified. The current APE falls within these previously inventoried areas.

A final location for the proposed fire station has not yet been determined; however, two locations have been identified and construction will occur in one of the two areas. Given the lack of previous findings, the potential for archaeological historic properties is extremely low. If any archaeological resources are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB Cultural Resources Program will be notified, and the unanticipated discovery of archaeological deposits procedures shall be implemented with direction from the Hill AFB Cultural Resources Program and in accordance with the Hill AFB Integrated Cultural Resources Management Plan (Attachment 2, Unanticipated Discovery of Archaeological Deposits).

Hill AFB has determined the proposed project will have no adverse effect to historic properties [36 CFR §800.4(d)(1)]. I request your concurrence in these determinations as specified in 36 CFR §800.

Should you or your staff have any questions about the project, please contact our archaeologist, Ms. Jaynie Hirschi, 75th CEG/CEVOR, at (801) 775-6920 or at [jaynie.hirschi@hill.af.mil](mailto:jaynie.hirschi@hill.af.mil).

Sincerely

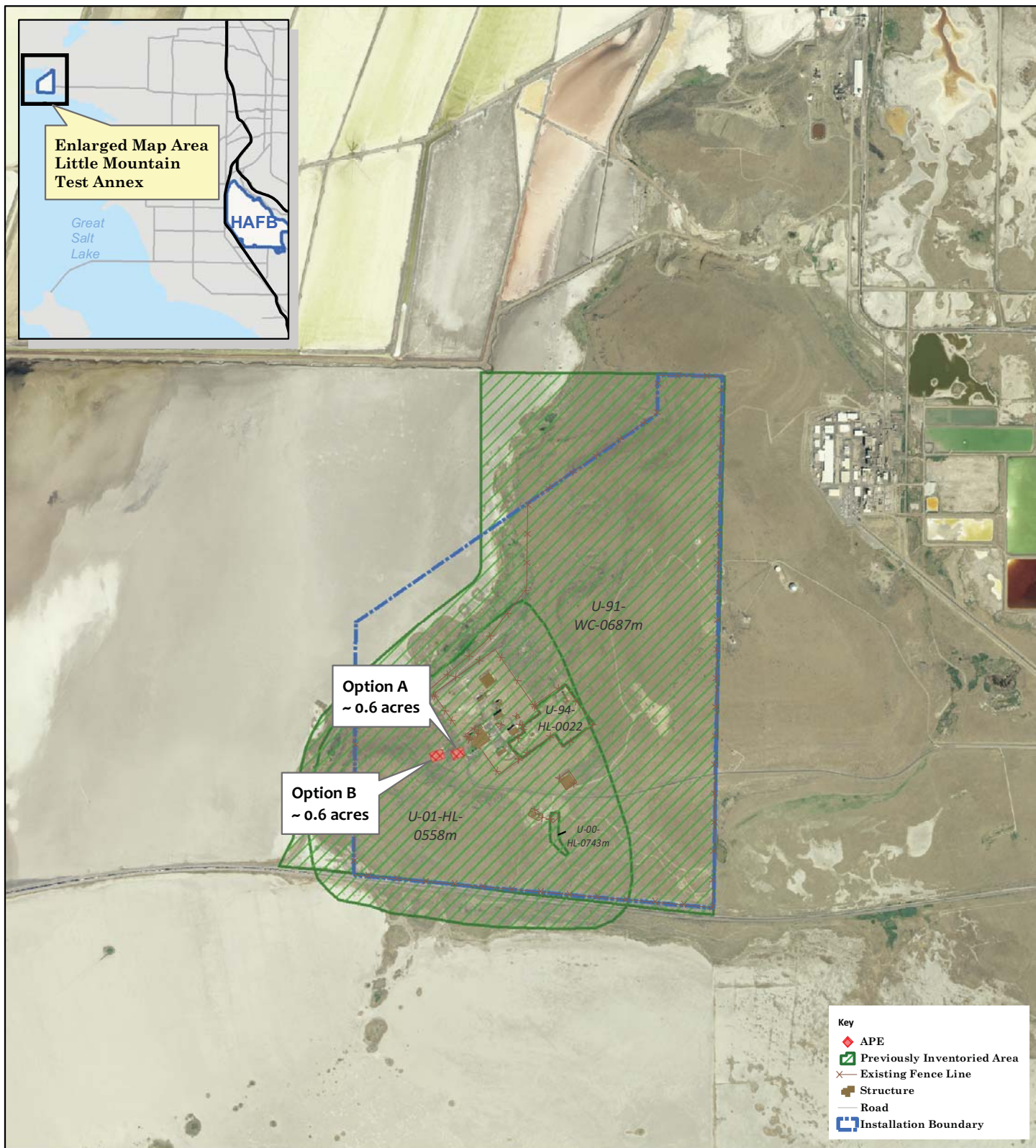
A handwritten signature in black ink, reading "Robert Elliott". The signature is fluid and cursive, with the first name "Robert" and last name "Elliott" clearly distinguishable.

ROBERT T. ELLIOTT, P.E., YF-02, DAF  
Chief, Environmental Management Division  
75th Civil Engineer Group

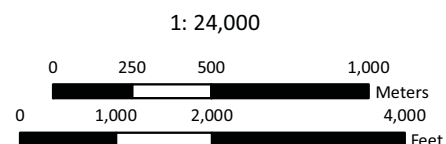
Attachments:

1. Area of Potential Effects for the Proposed Little Mountain Test Annex Fire Station, Options A and B, Hill Air Force Base, Utah
2. Unanticipated Discovery of Archaeological Deposits





Area of Potential Effects for the Proposed  
Little Mountain Test Annex  
Fire Station, Options A and B  
Hill Air Force Base, Utah



# *Standard Operating Procedure*

## **UNANTICIPATED DISCOVERY OF ARCHAEOLOGICAL DEPOSITS**

### **APPLICABLE LAWS AND REGULATIONS**

- ◆ National Historic Preservation Act
- ◆ National Environmental Policy Act
- ◆ Native American Graves Protection and Repatriation Act
- ◆ AFI 32-7065 (June 2004), *Cultural Resources Management Program*

### **OVERVIEW**

All undertakings that disturb the ground surface have the potential to discover buried and previously unknown archaeological deposits. The accidental discoveries of archaeological deposits during an undertaking can include but are not limited to:

- ◆ Undiscovered/undocumented structural and engineering features; and
- ◆ Undiscovered/undocumented archaeological resources such as foundation remains, burials, artifacts, or other evidence of human occupation.

### **POLICY**

When cultural resources are discovered during the construction of any undertaking or ground-disturbing activities, Hill AFB shall:

- ◆ Evaluate such deposits for NRHP eligibility.
- ◆ Treat the site as potentially eligible and avoid the site insofar as possible until an NRHP eligibility determination is made.
- ◆ Make reasonable efforts to minimize harm to the property until the Section 106 process is completed.
- ◆ **The BHPO will ensure that the provisions of NAGPRA are implemented first if any unanticipated discovery includes human remains, funerary objects, or American Indian sacred objects (see SOP #6).**

### **PROCEDURE**

Step 1: Work shall cease in the area of the discovery (Figure 5-5). Work may continue in other areas.

- ◆ The property is to be treated as eligible and avoided until an eligibility determination is made. Hill AFB will continue to make reasonable efforts to avoid or minimize harm to

Further construction activities in the vicinity of the site will be suspended until an agreed-upon testing strategy has been carried out and sufficient data have been gathered to allow a determination of eligibility. The size of the area in which work should be stopped shall be determined in consultation with the **BHPO**.

the property until the Section 106 process is completed.

Step 2: Immediately following the discovery, the **Project Manager** shall notify the installation **BHPO**.

Step 3: The **BHPO** or a professional archaeologist shall make a field evaluation of the context of the deposit and its probable age and significance, record the findings in writing, and document with appropriate photographs and drawings.

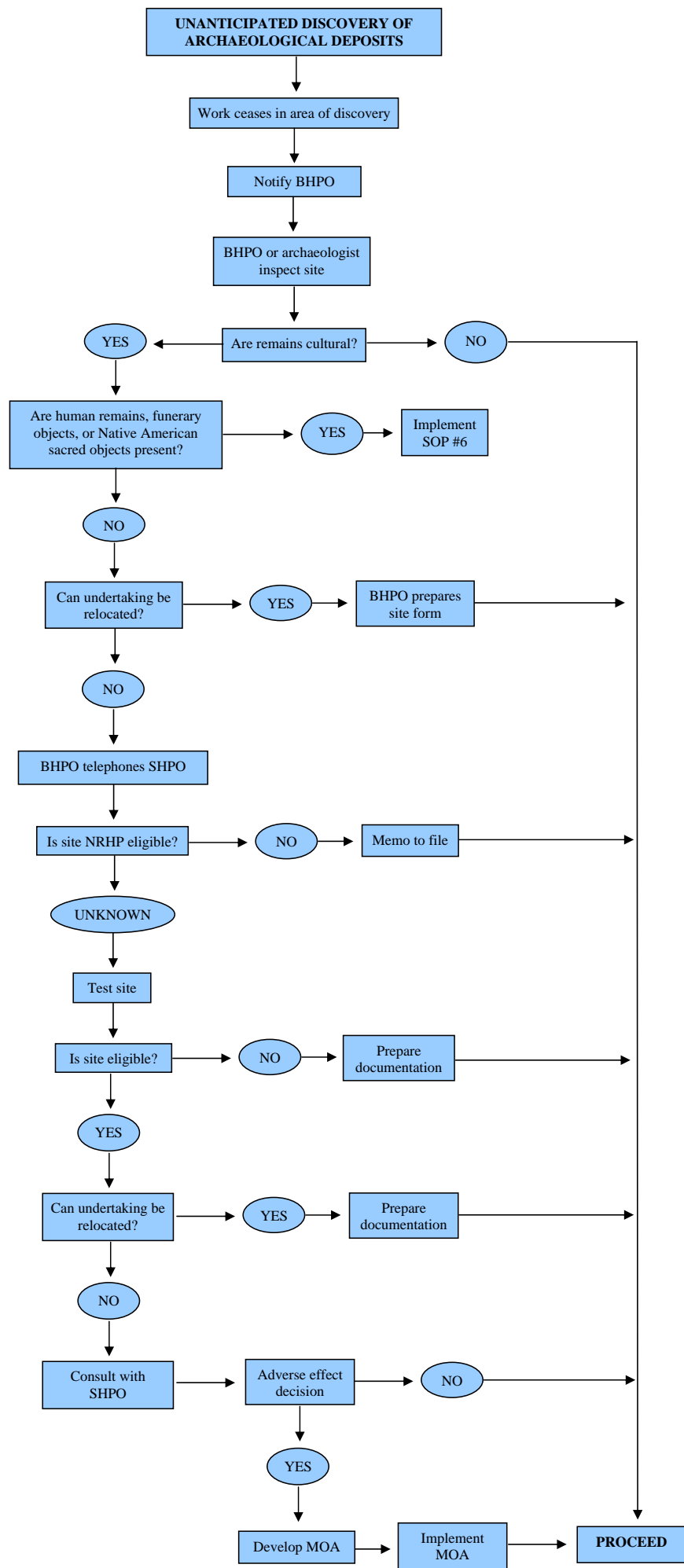
- ◆ If disturbance of the deposits is minimal and the excavation can be relocated to avoid the site, the **BHPO** will file appropriate site forms in a routine manner.
- ◆ If the excavation cannot be relocated, the **BHPO** shall notify the office of the **SHPO** to report the discovery and to initiate an expedited consultation.

*The Section 106 review process is initiated at this point.*

- ◆ If the deposits are determined to be ineligible for inclusion in the NRHP, then Hill AFB **BHPO** will prepare a memorandum for record and the construction may proceed.
- ◆ If the existing information is inadequate for an NRHP eligibility determination, Hill AFB **BHPO** shall develop an emergency testing plan in coordination with the SHPO.

Step 4: Hill AFB shall have qualified personnel conduct test excavations of the deposits to determine NRHP eligibility.

- ◆ Hill AFB BHPO, in consultation with the SHPO, will determine appropriate methodology for NRHP eligibility determination.
- ◆ If the SHPO and Hill AFB agree that the deposits are ineligible for inclusion in the NRHP, then work on the undertaking may proceed.
- ◆ If the deposits appear to be eligible, or Hill AFB and the SHPO cannot agree on the question of eligibility, then Hill AFB shall implement alternative actions, depending on the urgency of the proposed action.
  - Hill AFB may relocate the project to avoid the adverse effect.
  - Hill AFB may request the Keeper of the National Register to provide a determination.
  - Hill AFB may proceed with a data recovery plan under a MOA developed in coordination with the SHPO and possibly the ACHP and interested parties.
  - **Hill AFB may request comments from the ACHP and may develop and implement actions that take into account the effects of the undertaking on the property to the extent feasible and the comments of the SHPO, ACHP, and interested parties. Interim comments must be provided to Hill AFB within 48 hours; final comments must be provided within 30 days.**





APPENDIX B

RESPONSES FROM AMERICAN INDIAN TRIBES



DEPARTMENT OF THE AIR FORCE  
75TH CIVIL ENGINEER GROUP (AFMC)  
HILL AIR FORCE BASE UTAH

9 November 2009

Mr. Robert T. Elliott  
Chief, Environmental Management Division  
75 CEG/CEV  
7274 Wardleigh Road  
Hill Air Force Base, Utah 84056-5137

Chairperson, Hopi Tribe  
PO Box 123  
Kykotsmovi, AZ 86039

RECEIVED  
DEC 02 2009  
BY: CPO/KS

Dear Chairperson

Hill Air Force Base (AFB) is currently proposing to construct a fire station at the Little Mountain Test Annex (LMTA) in Weber County, Utah. This is required to provide adequate fire protection for all personnel and material assets located at LMTA. Current facilities do not comply with various Department of Defense standards. The Area of Potential Effect (APE) is approximately one acre of property (Attachment 1, Area of Potential Effects for the Proposed Little Mountain Test Annex Fire Station, Options A and B, Hill Air Force Base, Utah).

Within LMTA, four previous inventories have comprised cultural resources survey of 848 acres (U-91-WC-687m, U-940HL-0022m, U-00-HL-0743m, and U-01-HL-0558m). No historic properties were identified. The current APE falls within these previously inventoried areas.

A final location for the proposed fire station has not yet been determined. However, two locations have been identified and construction will occur in one of the two areas. Given the lack of previous findings, the potential for archaeological historic properties is extremely low. If any archaeological resources are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB Cultural Resources Program will be notified, and the unanticipated discovery of archaeological deposits procedures shall be implemented with direction from the Hill AFB Cultural Resources Program and in accordance with the Hill AFB Integrated Cultural Resources Management Plan (Attachment 2, Unanticipated Discovery of Archaeological Deposits).

Hill AFB has determined the proposed project will have no adverse effect to historic properties [36 CFR §800.4(d)(1)].

An Environmental Assessment has been prepared for the proposed LMTA fire station. If you would like a copy of this document to review, or should you or your staff have any questions about the project, please contact our archaeologist, Ms. Jaynie Hirschi, 75<sup>th</sup> CEG/CEVP, at (801) 775-6920 or at jaynie.hirschi@hill.af.mil.



Sincerely

ROBERT T. ELLIOTT, P.E., YF-02, DAF  
Chief, Environmental Management Division  
75th Civil Engineer Group

Attachments:

1. Area of Potential Effects for the Proposed Little Mountain Test Annex Fire Station, Options A and B, Hill Air Force Base, Utah
2. Unanticipated Discovery of Archaeological Deposits

cc:

Vice Chairman, Hopi Tribe

Mr. Leigh Kuwanwisiwma, Hopi Tribe Director of Cultural Preservation

DISTRIBUTION:

Blackfoot Tribe  
Confederated Tribes of the Goshute Indian Reservation  
Crow Tribe of Montana  
Eastern Shoshone Tribe  
Hopi Tribe  
Navajo Nation  
Northern Arapaho Tribe  
Northwestern Band of the Shoshone Nation  
Paiute Indian Tribe of Utah  
Pueblo of Zuni  
San Juan Southern Paiute Tribe  
Shoshone-Bannock Tribes of the Fort Hall Reservation  
Shoshone-Paiute Tribes of the Duck Valley Reservation  
Skull Valley Band of Goshute Indians  
Te-Moak Tribe of Western Shoshone Indians  
Ute Indian Tribe  
Ute Mountain Ute Tribe

cc: [signature]

[signature]  
for

Kuwanwisiwma  
12-3-09

## **FINDING OF NO SIGNIFICANT IMPACT**

- 1. NAME OF ACTION:** Provide a Fire Station at Little Mountain Test Annex (LMTA).
- 2. DESCRIPTION OF THE PROPOSED ACTION:** Hill Air Force Base (AFB) proposes to accommodate current United States Air Force (USAF) missions by providing a three-bay fire station to provide adequate fire protection for all personnel and material assets located at LMTA. The proposed action would be on an existing parking lot.
- 3. SELECTION CRITERIA:** The following criteria were used to assemble alternatives.

The facility that provides fire protection for LMTA should:

- comply with Department of Defense (DOD) standards, Air Force instructions (AFIs), unified facilities criteria (UFC), and standards published by the National Fire Protection Association (NFPA);
- have sufficient space to accommodate all fire department needs, including the latest generation of larger fire fighting vehicles;
- be located within five minutes of LMTA facilities requiring protection in accordance with NFPA Standard 1710 and DOD Standard 6055.6;
- be located near existing water, sewer, and storm drains; and
- be protective of facilities, human health, and the environment.

### **4. ALTERNATIVES CONSIDERED OTHER THAN THE PROPOSED ACTION:**

Under the no action alternative, the fire station would not be constructed, and compliant facilities would not be provided. Existing deficiencies related to living areas, size of fire station bays and doors, disinfection facilities, and hazardous materials response capability would continue to exist.

An alternative was considered to construct the fire station to the west of the existing parking lot.

Renovating and expanding the existing fire station in Building 4301 was considered by the Hill AFB planners and engineers. This option was not feasible due to spatial constraints of neighboring driveways and structures compared to the turning radius of fire fighting vehicles currently in the USAF inventory.

Outsourcing LMTA fire protection services to nearby municipalities was considered. The closest existing municipal fire station is approximately 12 miles to the east of LMTA, along 1900 West Street, Ogden, Utah. Because of the distance municipal fire crews would have to travel to reach LMTA, the selection criterion of a five minute response time would not be met.

## 5. SUMMARY OF ANTICIPATED ENVIRONMENTAL EFFECTS:

| Issue                           | Alternative A<br>No Action  | Alternative B<br>Proposed Action  | Alternative C<br>Construct a Fire Station West<br>of Existing Parking Lot   |
|---------------------------------|---|---|---|
| Air<br>Quality                  | Existing air emissions from the emergency generator are 0.11 tons per year or less of each criteria pollutant, and one pound of hazardous air pollutants (HAPs).  | Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled.<br><br>Air emissions from an emergency generator would produce 0.11 tons per year or less of each criteria pollutant, and one pound of HAPs.  | Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled.<br><br>Air emissions from an emergency generator would produce 0.11 tons per year or less of each criteria pollutant, and one pound of HAPs.  |
| Solid and<br>Hazardous<br>Waste | Solid and liquid wastes are properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater flows to an existing sanitary sewer.  | If contaminated soils or pavements are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would flow to an existing sanitary sewer.   | If contaminated soils are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would flow to an existing sanitary sewer.  |
| Biological<br>Resources         | Human activities would continue in the area, such as operation of existing facilities and maintenance of habitat. Paved areas would remain, and unpaved areas would remain in their current, somewhat degraded condition. | LMTA habitat has been previously degraded by human activities and by fires. The proposed fire station would reduce available forage for birds and mammals, and displace rodents. Without best management practices, construction activities would increase the chance of introducing additional invasive species. Restoration planting (of any areas not occupied by structures or pavements) would include fire resistant plants, native grasses, and native shrubs. Installing a security fence (enclosing approximately one acre) would not be expected to trap or otherwise affect the resident mule deer herd. | LMTA habitat has been previously degraded by human activities and by fires. The proposed fire station would reduce available forage for birds and mammals, and displace rodents. Without best management practices, construction activities would increase the chance of introducing additional invasive species. Restoration planting (of any areas not occupied by structures or pavements) would include fire resistant plants, native grasses, and native shrubs. Installing a security fence (enclosing approximately one acre) would not be expected to trap or otherwise affect the resident mule deer herd. |

|               |             |   |   |
|---------------|-------------|---|---|
| Water Quality | No effects. | During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved. Capacity of the septic system would be increased, if necessary. | During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved. Capacity of the septic system would be increased, if necessary. |
|---------------|-------------|---|---|

**6. FINDING OF NO SIGNIFICANT IMPACT:** Based on the above considerations, a Finding of No Significant Impact (FONSI) is appropriate for this assessment.

Approved by: \_\_\_\_\_  
HARRY BRIESMASTER III, YF-03, DAF  
Director, 75th Civil Engineer Group

Date: \_\_19 Mar 10\_\_